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Steve Wene, No. 019630
MOYES SELLERS & HENDRICKS LTD.
1850 N. Central Avenue, Suite 1100
Phoenix, Arizona 85004
(602)-604-2189
swene@law-msh.com
Attorneys for Ray Water Company, Inc.

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

Arizona Corporation Commission
DOCKETED

DEC 21 2012



**APPLICATION OF RAY WATER
COMPANY FOR A PERMANENT
INCREASE IN ITS RATES**

Docket No. W-01380A-12-0254

**FILING OF REBUTTAL
TESTIMONY**

Ray Water Company, ("Company"), hereby files rebuttal testimony of the
following witnesses:

- Rhonda Rosenbaum (Attachment 1)
- Sonn Rowell (Attachment 2)
- Kara Festa (Attachment 3); and
- Marvin Glotfelty (Attachment 4).

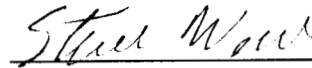
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CORP COMMISSION

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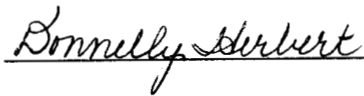
1 Dated this 21st day of December, 2012.
2
3

4 **MOYES SELLERS & HENDRICKS LTD.**
5

6 
7 _____
8 Steve Wene

9 Original and 13 copies of the foregoing
10 filed this 21st day of December, 2012, with:

11 Docket Control
12 Arizona Corporation Commission
13 1200 West Washington
14 Phoenix, Arizona 85007
15

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ATTACHMENT 1

1 Steve Wene, No. 019630
2 MOYES SELLERS & HENDRICKS LTD.
3 1850 N. Central Avenue, Suite 1100
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17 **APPLICATION OF RAY WATER
18 COMPANY FOR A PERMANENT
19 INCREASE IN ITS RATES**

Docket No. W-01380A-12-0254

**REBUTTAL TESTIMONY OF
RHONDA ROSENBAUM**

20
21 **Q. Please state your name and current employment position:**

22 **A.** My name is Rhonda Rosenbaum. I am the Vice President of the Ray Water
23 Company ("Company" or "Ray"). I am also the Company's certified operator. My
24 husband Joe Rosenbaum and I manage the Company.

25
26 **Q. Describe your educational and professional background:**

27 **A.** I have a B.A. in English Literature from Claremont McKenna College and a J.D.
28 from the University of Arizona College of Law. I was admitted to the State Bar of

1 Arizona in 1987. I am a Grade 2 Water Distribution System Operator. I have managed
2 the Company, which my grandparents founded, for 25 years.

3
4 **Q. What is the purpose of your rebuttal testimony?**

5 **A.** The purpose of my rebuttal testimony is to respond to Commission Staff's
6 testimony relating to the Company's management, operations, reliability of the Company
7 well supplies, and other relevant factors in support of the rate application.

8
9 **Q. Please summarize your conclusions regarding the matters addressed in your**
10 **testimony.**

11 **A.** The Ray Water Company has had a total of eight well sites in operation at various
12 times during the twenty five years I have worked with the water company. Several wells
13 are approximately 30 to 40 years old and have reached the end of their useful operating
14 lives. The Company has slowly taken wells out of service and discontinued their use as
15 the casings have aged and damage has indicated that it was no longer feasible to rely on
16 those wells.

17
18 **Q. Do you agree with Staff's Adjustment No. 1?**

19 **A.** No. The Company uses Well No. 8 routinely. Both Kara Festa and Marvin
20 Glotfelty have explained that Well No. 8 is needed to reliably meet the Company's water
21 demand. Well No. 8 is not excess capacity; it is a necessary supply well.

22
23 **Q. Do you agree with Staff's Adjustment No. 2?**

24 **A.** No. The wells, land, and pumping equipment are used and useful. Within an
25 Active Management Area, there are strict rules governing where wells can be located.
26 The well sites are extremely valuable because they allow the Company to drill
27 replacement wells in that location. If these well sites were not available, then the
28 Company would have a very difficult time drilling wells when needed in the future.

1
2 **Q. Do you agree with Staff's recommendation that the Company should be**
3 **required to comply with five BMP tariffs?**

4 **A.** No. The Arizona Department of Water Resources has BMP rules that govern
5 water providers. The Commission does not need to duplicate the regulatory burden.
6

7 **Q. Do you agree with Staff's recommendation that the Company should**
8 **conduct a study to demonstrate that adding multiple variable frequency drive**
9 **motors is cost effective?**

10 **A.** No. The Company system has more than sufficient storage and booster pump
11 capacity to meet instantaneous demands, and pump cycling is reasonable and has not
12 caused undue wear or stress on the pumps and motors over Ray Water Company's many
13 years of operation. As explained by Kara Festa, the hydropneumatic tanks are adequately
14 sized for the satisfactory operation of this water system, and the Company does not have
15 pressure or water delivery issues associated with inadequate hydropneumatic tank
16 capacity. My understanding is that the study could cost approximately \$20,000. So if the
17 Company is required to perform this study, then this cost should be included in rates.
18

19 **Q. Do you agree with Staff rate base Adjustment 4 removing 75% of the cost**
20 **(\$30,083) of the SUV driven by Mrs. Rosenbaum?**

21 **A.** No. Staff applied the 75% allowance amount to \$40,110, which represents total
22 additions to account 341 during 2008, including the 2004 Ford truck used by Mr. Rader.
23 Further, I believe an allowance of 50% is more reasonable.
24

25 **Q. Does the Company agree with the Tariff proposed as Exhibit A on Page 36 of**
26 **the Direct Testimony of Crystal S. Brown?**
27
28

1 **A.** No. The Company believes this is unnecessary. Ray provides water demand
2 information to the County so the County can provide better service and rates to its
3 customers. There is no reason for the Commission to regulate this matter.
4

5 **Q.** **Does this conclude your testimony?**

6 **A.** Yes, it does.
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ATTACHMENT 2

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17 **APPLICATION OF RAY WATER
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19 INCREASE IN ITS RATES**

Docket No. W-01380A-12-0254

**REBUTTAL TESTIMONY OF
SONN ROWELL**

20
21 **Q. Please state your name and current employment position:**

22 **A.** My name is Sonn S. Rowell, and I am a Certified Public Accountant and
23 Regulatory Consultant. I am also a managing member of Desert Mountain Analytical
24 Services, PLLC ("DMAS").

25 **Q. Describe your educational and professional background:**

26 **A.** I hold a Bachelor of Science Degree in Accounting from Arizona State University,
27 as well as my CPA certification from the Arizona State Board of Accountancy. I have
28 worked for many years in the practice of small business public accounting and regulatory

1 consulting, and have held part-time accountancy teaching positions at Mesa Community
2 College. After employment with the Accounting and Rates Section of the Utilities
3 Division at the Arizona Corporation Commission ("Commission") for four years, I
4 formed DMAS and now specialize primarily in regulatory accounting and consulting.

5
6 **Q. By whom are you employed and in what capacity?**

7 **A.** I have been retained by the management and ownership of Ray Water Company,
8 ("Company" or "Ray") to help prepare and defend a rate application submittal to the
9 Commission and prepared the rebuttal schedules enclosed herein, which I adopt as part of
10 my testimony.

11
12 **Q. What is the purpose of your rebuttal testimony?**

13 **A.** The purpose of my rebuttal testimony is to respond to Commission Staff's
14 testimony relating to the development of the Company's gross revenue requirement,
15 taking into account rate base, adjusted operating income, working capital requirements,
16 current rate of return, required operating income, required rate of return for the historic
17 twelve month period, and other relevant factors in support of the rate application.

18
19 **Q. Has Ray made changes in its rebuttal testimony from that of the original**
20 **application?**

21 **A.** Yes it has. In the initial application, Ray was proposing an increase in the gross
22 revenue requirement of \$373,970, or a 64.90% increase. Rebuttal Schedule A-1 reflects
23 the increase amount has been reduced to \$300,058, or an overall increase of 51.66%.

24
25 **Q. Does the Company agree with Staff Rate Base Adjustment 1 regarding excess**
26 **capacity plant costs in the amount of \$459,450 as reflected on Schedule CSB-5?**

27 **A.** No. Ray did not adopt this adjustment, and the supporting testimony is provided
28 by Kara Festa.

1
2 **Q. Does the Company agree with Staff Rate Base Adjustment 2 regarding plant**
3 **not used and useful in the amount of \$33,853 as reflected on Schedule CSB-6?**

4 **A.** No. Ray did not adopt this adjustment, and the supporting testimony is provided
5 by Rhonda and/or Kara Festa.
6

7 **Q. Did Ray adopt Staff rate base Adjustment 3 as reflected on Schedule CSB-7?**

8 **A.** Yes. \$1,032 was reclassified from account 307 to account 330.2 in 2011.
9

10 **Q. Does the Company agree with Staff rate base Adjustment 4 as reflected on**
11 **Schedule CSB-8 that purportedly removes 75% of the cost (\$30,083) of the SUV**
12 **driven by Mrs. Rosenbaum?**

13 **A.** No. Staff applied the 75% allowance amount to \$40,110, which represents total
14 additions to account 341 during 2008, including the 2004 Ford truck used by Mr. Rader.
15 On page 10, line 6 of direct testimony, when asked if Staff had concerns about the 2004
16 Ford truck, Staff stated "No". The cost of the 2004 Ford truck was \$13,110, and the
17 Lexus SUV was \$27,000, which represents the total additions to account 241 in 2008 of
18 \$40,110.
19

20 **Q. Is the Company advocating including the total amount for the SUV of \$27,000**
21 **in plant, or does it agree with Staff's 25% allowance?**

22 **A.** Ray believes a more appropriate allowance percentage is 50% and has made an
23 adjustment reflecting a reduction to account 341 for \$13,500 (\$27,000 x 50%), and is
24 reflected on Rebuttal Schedule B-2. This is an increase of \$16,583 from Staff's rate base
25 adjustment on Schedule CSB-8, including \$13,110 for the cost of the 2004 Ford Truck
26 and adjustments for the SUV allowance.
27
28

1 **Q. Does the Company agree with Staff rate base Adjustment 5 regarding**
2 **accumulated depreciation in the amount of \$42,314 as reflected on Schedule CSB-9?**

3 **A.** No. But since Ray does not agree with Staff's positions regarding excess capacity
4 and not used and useful plant, accumulated depreciation will not match. In addition, it is
5 unclear to the Company why Staff used a depreciation rate of 20% for the transportation
6 equipment portion of the adjustment when Ray's depreciation rate has been 5% for all
7 assets classes since the last rate case. Also, the amounts reflected for accumulated
8 depreciation on Schedule CSB-9 do not correlate to the amount reflected on Schedule
9 CSB-3. Rebuttal Schedule B-2 shows how accumulated depreciation was adjusted from
10 the original application by the SUV value reduction and correction of excess depreciation
11 in the Meters account.

12
13 **Q. Does Ray agree with Staff rate base Adjustment 6 for AIAC as reflected on**
14 **Schedule CSB-10?**

15 **A.** No. Staff made certain assumptions about the AIAC on the Company's books that
16 were incorrect. Certain line extension agreements provide for a 15 or 20 year repayment
17 period, thus arbitrarily transferring amounts to CIAC after 10 years may not always be
18 correct. In the case of Ray, Company personnel and the CPA that compiles the annual
19 reports and income taxes has kept very detailed records of Advances and the associated
20 repayments. As a result, the Company believes the balance of \$1,633,387 in the AIAC
21 account at the end of 2011 is correct and does not require adjustment.

22
23 **Q. Does the Company agree with Staff's rate base Adjustments 7 and 8 for**
24 **CIAC and CIAC amortization as reflected on Schedules CSB-11 and CSB-12?**

25 **A.** No. As there does not need to be any transfers from AIAC, there does not need to
26 be any adjustments to what was originally filed by the Company.

1 **Q. Has Ray adopted Staff rate base Adjustment 9 related to customer security**
2 **deposits as detailed on Schedule CSB-13?**

3 **A.** Yes. This change is reflected on Rebuttal Schedule B-2.
4

5 **Q. Does the Company agree with Staff's rate base Adjustment 10 regarding the**
6 **prepayment portion of working capital?**

7 **A.** No, however due to the immaterial nature of the adjustment, Ray will not dispute
8 it.

9 **Income Statement**
10

11 **Q. It appears as though there are several areas where the Company agrees with**
12 **adjustments made by Staff to the income statement. Is that correct?**

13 **A.** Yes. Ray agrees with the following Staff adjustments summarized on Schedule
14 CSB-15.

15 Adjustment 1 – increase to other operating revenue for \$4,548 (Ray Adjustment
16 A2).

17 Adjustment 2 – decrease to salaries and wages of \$30,259 (Ray Adjustment S).

18 Adjustment 3 – decrease to employee pensions and benefits for \$4,520 (Ray
19 Adjustment B).

20 Adjustment 5 – increase to water testing expense in the amount of \$965 (Ray
21 Adjustment E).

22 Adjustment 9 – decrease to taxes other than income for \$1,533 (Ray Adjustment
23 K).

24
25 **Q. Please explain the areas of disagreement with Staff, beginning with**
26 **Adjustment 4.**
27
28

1 A. Adjustment 4 removes the Company's proforma adjustment for purchased power
2 related to well #8. Since Ray does not believe this well is excess capacity, this Staff
3 adjustment has not been adopted.

4
5 **Q. What issue does Ray have with Staff operating income Adjustment 6 for**
6 **\$2,200?**

7 A. Staff's assumptions are just flat out incorrect, not to mention invasive. Ray was
8 asked for information in data requests about other entities with common ownership. The
9 Company disclosed there were other entities that used that location as a mailing address,
10 but had very little, if any, business activity at the Court Avenue location. In addition,
11 neither Ray nor any of its owners or employees has any ownership or other interest in
12 Cycling Developers. As a result, the Company has not adopted this adjustment.

13
14 **Q. Let's move on to Staff operating Adjustment 7 which decreases**
15 **transportation expenses by \$4,110. What issue does Ray have with this adjustment?**

16 A. Staff's adjustment is comprised of two parts. The first part relates to gasoline
17 purchases for the vehicles where 75% of the amount allocated to the SUV (\$1,772) was
18 disallowed, or \$1,329. The Company proposes allowing 50% of the cost of the SUV to
19 be recovered in rates, or a decrease to the amount on the original application of \$886
20 (Adjustment R on Rebuttal Schedule C-1) instead of Staff's \$1,329.

21
22 Regarding the second part of the adjustment, which further decreases this line item by
23 \$2,781, the Company feels this violates the historical test year by amortizing these costs.

24 Although it is true that items of this nature may not occur on an annual basis, most of the
25 time these costs are replaced by others that also do not occur on an annual basis.

26 Regardless of how efficient and cost effectively this Company is run, it is unreasonable to
27 think any company with three vehicles (2.5) would only incur \$1,215 in repairs and
28 maintenance each year.

1
2 **Q. Did you adopt Staff operating income Adjustment 8 regarding depreciation**
3 **expense?**

4 **A.** No, as we do not agree on the final plant balance. The Company did adjust
5 depreciation expense to account for the removal of half the cost of the SUV and excess
6 depreciation inadvertently calculated in the Meters category. The revised depreciation
7 expense amount of \$170,375 is detailed on Rebuttal Schedule C-2j.

8
9 **Q. What about Staff operating income Adjustments 10 and 11 related to**
10 **property and income taxes?**

11 **A.** Both of these expense items increase and/or decrease with the change in the
12 revenue requirement so here the Company as Staff amounts do not coincide. The
13 Company proposed amounts for property taxes are calculated on Rebuttal Schedule C-2l,
14 and income taxes at proposed rates are calculated on Rebuttal Schedule C-2m.

15
16 **Q. Do you take issue with how Staff is calculating either of these amounts?**

17 **A.** We have adopted some of Staff's methodology regarding separating the Federal
18 income tax expense out by income brackets, resulting in a more accurate tax projection.
19 However, on Schedule CSB-2 Staff uses synchronized interest of \$3,055 to calculate
20 income taxes. The interest expense below the line is related to the loan for the new well
21 #8, (approved by Decision No. 71691 dated May 3, 2010) which Staff has recommended
22 be disallowed as it is excess capacity. If that is the case, this interest should not be
23 included in any of the calculations or analysis for this rate case.

24
25 Regarding Staff's property tax expense calculations reflected on Schedule CSB-
26 26, Staff uses a Composite Property Tax Rate of 9.8053%, which is substantially lower
27 than the 13.2606% calculated by the Company. Staff does not provide any support for
28 how its percentage was derived, and Ray believes this is incorrect as a composite rate

cannot be lower than the tax rates used on the individual parcels, which are all north of 13%.

Revenue Requirement and Rate Design

Q. What revenue requirement has the Company proposed?

A. Ray proposes a total revenue requirement of \$880,872, and metered water revenue of \$858,381, based upon changes to plant, rate base, and the income statement.

Q. Clearly Staff and the Company do not agree on the revenue requirement. Do you have any comment on Staff's rate design?

A. Yes. Staff made very few changes to the monthly minimum charges for Ray, with the exception of the three smallest meter sizes, which were increased. To offset that monthly minimum increase, commodity rates at the very low end were reduced.

Q. What does Ray feel the problem is with the rate design proposed by Staff?

A. Monthly minimum charges for the most part do not change materially for each customer under Staff's proposal, and they do not follow the meter multiplier formula that is often used by Staff. This means the bulk of the increase is forced upon the commodity charges, which are subject to change by the customers at any given time. This substantially increases the risk that the Company will not meet its revenue requirement approved by the Commission as customers increasingly conserve. This scenario has played out among many water companies recently: revenue requirements set by Staff are not being attained due to conservation.

Q. Does the Company have a proposed remedy to alleviate the strain these assumptions place upon water companies?

1 A. Yes. The Company's rate design should be adopted. Further, if after 2 complete
2 calendar years of new rates Ray is not attaining its approved revenue requirement, then a
3 mechanism that will provide a surcharge to recover the difference between actual revenue
4 and the revenue requirement from the last rate case in order to make the utility whole be
5 allowed.

6
7 **Q. Does the Company have a revised proposed rate schedule?**

8 A. Yes. The Company has revised its proposed tariff to attempt to divide the revenue
9 requirement as equally as possible between the monthly minimum charge and the
10 commodity charges, while maintaining a reasonable increase amongst classes and meter
11 sizes. The rates proposed by Ray will result in about 42% of the metered water revenue
12 requirement coming from the monthly minimum charges, and about 58% from the
13 commodity charges. This allocation of revenue is similar to that resulting from Staff's
14 proposed rates, but with a much lower metered water revenue requirement. See Rebuttal
15 Schedule H-3.

16
17 **Q. Please explain the impact of the Company's revised proposed rates on the**
18 **average 5/8 x 3/4-inch residential customer using 7,832 gallons per month.**

19 A. Under the rates proposed on Rebuttal Schedule H-3, the average customer would
20 see an increase of \$3.55 from \$23.29 to \$26.84 per month, or 15.24%

21
22 **Q. If the overall increase to revenue proposed by Ray is 51.66% and the average**
23 **5/8-inch residential customer's increase is 15.24%, doesn't that mean someone else**
24 **is getting a larger increase?**

25 A. Yes. As depicted on Rebuttal Schedule H-1, the three largest meter sizes all have
26 increases near 150% or more, while the 5/8-inch commercial customers will experience
27 almost a 121% increase.
28

1 **Q. Can you explain this?**

2 **A.** Larger meter sizes and/or commercial customers that use more water are subjected
3 to the highest tier rate in the tariff. As a result, these customers bear the bulk of the
4 increase in rates, but also have the ability to conserve and jeopardize the ability of Ray to
5 earn its necessary revenue requirement.
6

7 **Q. Do Ray and Staff agree on the Company proposed service charges?**

8 **A.** Staff has accepted Ray's proposed amounts for Establishment, Reconnection
9 (Delinquent), and NSF Charges, as well as implementation of a \$25 After Hours Charge.
10 Staff does not agree with the Company proposed amounts for Meter Test and Meter Re-
11 Read (If Correct), however, Ray will adopt the Staff recommended amounts.
12

13 **Q. What about Staff's rejection of the 2% Late Payment Fee (Per Month)?**

14 **A.** The Company wanted to increase this fee to be more than the deferred payment
15 percentage of 1.5 percent. A late payment fee of 1.5 percent of the amount late results in
16 a very small fee amount that does not deter late payments by customers. As a result of
17 discussing an issue like this for another water company with representatives from
18 Consumer Services, Ray proposes this amount be a flat \$5.00.
19

20 **Q. Did Staff increase Other Revenues for the increase in services charges**
21 **proposed?**

22 **A.** Yes, and the Company does not agree. There is no guarantee that Ray will
23 maintain the test year level of other service charge revenues, and increasing those
24 amounts serves only to further reduce the amount to be recovered in water rates. The
25 Company has not adopted this Staff adjustment of \$3,750 as reflected on Schedule CSB-
26 15.
27

28 **Other**

1
2 **Q. Does the Company agree with the Tariff proposed as Exhibit A on Page 36 of**
3 **the Direct Testimony of Crystal S. Brown?**

4 **A.** No. The Company does not understand why this is necessary as it is not a true
5 “tariff” as it does not deal with a fee. It is in the best interest of the customers that this
6 information be provided to the County by Ray so it is better able to set rates to properly
7 fund its wastewater system.
8

9 **Q. Do you agree with the Staff Engineer’s recommendation to approve and have**
10 **filed as a compliance item in this Docket, five BMP Tariffs?**

11 **A.** No. As with the other proposed tariff above, BMPs are not a rate or a fee, and
12 therefore have no business as a tariff.
13

14 **Q. Does that conclude your testimony?**

15 **A.** Yes.
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INDEX OF FINANCIAL SCHEDULES FOR RAY WATER COMPANY

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Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule A-1
Title: Computation of Increase in Gross
Revenue Requirements

Explanation:
Schedule showing computation of increase in
gross revenue requirements and spread of revenue
increase by customer classification.

Required for: All Utilities	<input checked="checked" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Special Reqmt	<input type="checkbox"/>

Line		Original Cost	RCND
1	Adjusted Rate Base	\$ 964,192 (a)	(a)
2	Adjusted Operating Income	\$ (97,917) (b)	(b)
3	Current Rate of Return	-10.16%	
4	Required Operating Income	\$ 101,869	
5	Required Rate of Return	10.57%	
6	Operating Income Deficiency (4 - 2)	\$ 199,786	
7	Gross Revenue Conversion Factor	1.502 (c)	(c)
8	Increase in Gross Revenue Requirements (6 x 7)	<u>\$ 300,058</u>	

	Customer Classification	Adjusted Revenue at Present Rates	Revenue at Proposed Rates	Projected Revenue Increase Due to Rates	% Dollar Increase	
9	Residential	\$ 491,575	\$ 718,359	\$ 226,784	46.13%	(d)
10	Commercial	64,867	135,146	70,279	108.34%	
11	Hydrant	1,881	4,876	2,995	159.22%	
12	Other	22,491	22,491	-	0.00%	
13	Total	<u>\$ 580,814</u>	<u>\$ 880,872</u>	<u>\$ 300,058</u>	<u>51.66%</u>	

Note: For combination utilities, the above information should be presented in total and by department.

Supporting Schedules:

(a) B-1 (c) C-3

(b) C-1 (d) H-1

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule A-2**Title: Summary Results of Operations****Explanation:**

Schedule showing comparative operating results for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Specd Reqmt	<input type="checkbox"/>

Line	Description	<u>Prior Years</u>		<u>Test Year</u>		<u>Projected Year</u>	
		Year End	Year End	Actual	Adjusted	Present	Proposed
		31-Dec-09	31-Dec-10	Rates	Rates	Rates	Rates
		(a)	(a)	(a)	(b)	(c)	(c)
1	Gross Revenues	\$ 635,172	\$ 599,142	\$ 586,108	\$ 580,814	\$ 580,814	\$ 880,872
2	Revenue Deductions & Operating Expenses	(648,127)	(626,850)	(676,610)	(678,731)	(678,731)	(779,003)
3	Operating Income	\$ (12,955)	\$ (27,708)	\$ (90,502)	\$ (97,917)	\$ (97,917)	\$ 101,869
4	Other Income and Deductions	(1,250)	1,155	8	492	492	492
5	Interest Expense	-	-	-	(5,020)	(5,020)	(5,020)
6	Net Income	\$ (14,205)	\$ (26,553)	\$ (90,494)	\$ (102,445)	\$ (102,445)	\$ 97,341
7	Earned Per Average Common Share*	\$ (88.78)	\$ (165.96)	\$ (565.59)	\$ (640.28)		
8	Dividends Per Common Share*	-	-	-	-		
9	Payout Ratio*	0.00%	0.00%	0.00%	0.00%		
10	Return on Average Invested Capital	-1.21%	-2.31%	-7.94%	-8.99%	-8.99%	8.54%
11	Return on Year End Capital	-1.21%	-2.36%	-7.85%	-8.89%	-8.89%	8.45%
12	Return on Average Common Equity	-1.21%	-2.31%	-8.28%	-9.37%	-9.37%	8.90%
13	Return on Year End Common Equity	-1.21%	-2.36%	-8.54%	-9.67%	-9.67%	9.19%
14	Times Bond Interest Earned - Before Inc Tax	N/A	N/A	N/A	-1836.90%	-1836.90%	2143.25%
15	Times Total Interest and Preferred Dividends						
16	Earned - After Income Taxes	N/A	N/A	N/A	-1950.71%	-1950.71%	2029.44%

Supporting Schedules:

(a) E-2

(b) C-1

(c) F-1

*Optional for projected year

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule A-4**Title: Construction Expenditures and
Gross Utility Plant in Service****Explanation:**

Schedule showing construction expenditures, plant placed in service and gross utility plant in service for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

Line	Year	Construction Expenditures (a)	Net Plant Placed In Service (b)	Gross Utility Plant In Service
1	Prior Year 1 - 2009	\$ 1,351,039	\$ 1,289,348	\$ 4,707,189
2	Prior Year 2 - 2010	210,314	76,238	4,783,427
3	Test Year - 2011	327,500	464,138	5,247,565
4	Projected Year 1	42,760	42,760	5,290,325
5	Projected *			
6	Projected *			

* Required only for Class A and B Utilities

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:

(a) F-3

(b) E-5

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-1
Title: Summary of Original Cost
and RCND

Explanation:
Schedule showing elements of adjusted original cost
and RCND rate bases.

Required for: All Utilities	<input checked="checked" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

Line	Description	Original Cost Rate Base*	RCND Rate Base*
1	Gross Utility Plant in Service	\$ 5,247,565	
2	Less: Accumulated Depreciation	<u>(1,822,662)</u>	
3	Net Utility Plant in Service	\$ 3,424,903 (a)	(b)
4	Less:		
5	Advances in Aid of Construction	\$ (1,633,387) (c)	(c)
6	Contributions in Aid of Construction	(982,352) (c)	(c)
7	Customer Security Deposits	(105,405)	
8	Add:		
9	Amortization of Contributions	\$ 260,433	
10	Allowance for Working Capital	<u>-</u> (d)	(d)
11	Total Rate Base	<u>\$ 964,192</u> (e)	(e)

* Including pro forma adjustments

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:

(a) B-2 (d) B-5

(b) N/A

(c) E-1

Recap Schedules:

(e) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-2
Title: Original Cost Rate Base
Proforma Adjustments

Explanation:
Schedule showing pro forma adjustments to gross plant
in service and accumulated depreciation for the original
cost rate base.

Required for: All Utilities ☒
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

Line	Description	Actual at End Of Test Year (a)	Pro forma Adjustment		Adjusted at End Of Test Year (b)
1	Gross Utility Plant in Service	\$ 5,261,065	\$ (13,500)	1	\$ 5,247,565
2	Less: Accumulated Depreciation	(1,835,897)	13,235	2	(1,822,662)
3	Net Utility Plant in Service	\$ 3,425,168	\$ (265)		\$ 3,424,903
4	Less:				
5	Advances in Aid of Construction	\$ (1,633,387)			\$ (1,633,387)
6	Contributions in Aid of Construction	(982,352)			(982,352)
7	Customer Security Deposits	(86,080)	(19,325)	3	(105,405)
8	Plus:				
9	Amortization of Contributions	\$ 260,433			\$ 260,433
10	Allowance for Working Capital	-			-
11	Total Rate Base	\$ 983,782	\$ (19,590)		\$ 964,192

12 *All pro forma adjustments should be adequately explained on this schedule or on attachments hereto.*

13 Adjustment 1 - reflects the reduction to Transportation Equipment for half the value of the SUV (\$27,000 x 50%).

14 Adjustment 2 - increases accumulated depreciation for the SUV value reduction, and corrects excess depreciation in Meters (account 334), a portion of which became fully depreciated in 2009.

15 Remove prior depreciation related to SUV value reduction (\$13,500 x 5% x 3.5 years) \$ 2,362

16 2009 excess accumulated depreciation related to Meters \$ 1,827

17 2010 excess accumulated depreciation related to Meters 4,530

18 2011 excess accumulated depreciation related to Meters 4,516

19 Total excess accumulated depreciation related to Meters in Original Application 10,873

20 Total decrease to Accumulated Depreciation - Adjustment 2 \$ 13,235

21 Adjustment 3 - Adopt Staff Adjustment No. 9 on Schedule CSB-13 \$ (19,235)

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-5
Title: Computation of Working
Capital

Explanation:
Schedule showing computation of working capital allowance.

Required for: All Utilities ☒
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

Line	Description	Amount
1	Cash working capital	\$ -
2	Materials and Supplies Inventories	- (a)
3	Prepayments	- (a)
4	Total Working Capital Allowance	<u><u>\$ - (b)</u></u>

NOTES:

1. Adequate detail should be provided to determine the bases for the above computations.
2. Adjusted test year operating expenses should be used in computing cash working capital requirements.
3. Combination utilities should compute working capital allowances for each department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule C-1
Title: Adjusted Test Year Income
Statement

Explanation:

Schedule showing statement of income for the test year,
including pro forma adjustments.

Required for: All Utilities

Class A

Class B

Class C

Class D

Spec'l Reqt

X

Line	Acct	Description	Actual for Test Year Ended (a) 31-Dec-11	Ref	Proforma Adjustments (b)	Test Year Results After Pro Forma Adjustments	Ref	Proposed Rate Increase	Adjusted Test Year With Rate Increase
Operating Revenues:									
1	461	Metered Water Revenue	\$ 559,457	A1	\$ (1,134)	\$ 558,323	P	\$ 300,058	\$ 858,381
2	460	Unmetered Water Revenue	-			-			-
3	474	Other Water Revenue	26,651	A2	(4,160)	22,491			22,491
4		Total Operating Revenue	\$ 586,108		\$ (5,294)	\$ 580,814		\$ 300,058	\$ 880,872
Operating Expenses:									
6	601	Salaries and Wages	\$ 226,744	S	\$ (30,259)	\$ 196,485			\$ 196,485
7	604	Employee Pensions and Benefits	-	B	4,550	4,550			4,550
8	610	Purchased Water	-			-			-
9	615	Purchased Power	82,011	C	24,863	106,874			106,874
10	618	Chemicals	-			-			-
11	620	Materials & Supplies	2,347			2,347			2,347
12	621	Office Supplies and Expense	11,481	D	10,709	22,190			22,190
13	630	Contractual Services - Billing	69,767			69,767			69,767
14	631	Contractual Services - Professional	17,001			17,001			17,001
15	635	Contractual Services - Testing	1,375	E	5,240	6,615			6,615
16	636	Contractual Services - Other	11,459	F	(546)	10,913			10,913
17	640	Rents	22,000			22,000			22,000
18	650	Transportation Expenses	13,316	R	(886)	12,430			12,430
19	655	Insurance	10,590			10,590			10,590
20	665	Rate Case Expense	3,000	G	7,000	10,000			10,000
21	670	Bad Debt Expense	-	H	295	295			295
22	675	Miscellaneous Expenses	23,473	I	(13,811)	9,662			9,662
23	403	Depreciation Expenses	169,486	J	889	170,375			170,375
24	408	Taxes Other Than Income	18,527	K	(1,414)	17,113			17,113
25	408.11	Property Taxes	32,260	L1	111	32,371	L2	5,571	37,942
26	409	Income Taxes	(43,940)	M	(4,620)	(48,560)	Q	94,702	46,141
27	427.4	Interest Expense - Customer Deposits	5,713			5,713			5,713
28		Total Operating Expenses	\$ 676,610		\$ 2,121	\$ 678,731		\$ 100,272	\$ 779,003
28		OPERATING INCOME/(LOSS)	\$ (90,502)		\$ (7,415)	\$ (97,917)	(c)	\$ 199,786	\$ 101,869
Other Income/(Expense):									
29	419	Interest Income	\$ 492			\$ 492			\$ 492
31	421	Non-Utility Income	4,548	A2	(4,548)	-			-
32	426	Miscellaneous Non-Utility Expenses	(5,032)	N	5,032	-			-
33	427	Interest Expense		O	(5,020)	(5,020)			(5,020)
34		Total Other Income/(Expense)	\$ 8		\$ (4,536)	\$ (4,528)		\$ -	\$ (4,528)
35		NET INCOME/(LOSS)	\$ (90,494)		\$ (11,951)	\$ (102,445)		\$ 199,786	\$ 97,341

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:

(a) E-2

(b) C-2a to C-2r

Recap Schedules:

(c) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2a
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENTS A1 AND A2 TO TEST YEAR REVENUE

Line	Description	Amount
1	Remove revenue related to 4-inch customer no longer on the water system.	\$ (1,134)
2	Total Adjustment A1 to Metered Water Revenue	\$ (1,134)
3	Annual ACC assessment	\$ (1,440)
4	Annual RUCO assessment	(176)
5	Accounts Receivable adjustment	(7,092)
6	Reclassification from Non-Utility Income	4,548
7	Total Adjustment A2 to Other Water Revenue	\$ (4,160)
8	Test Year Establishment/Reconnect Fees	\$ 12,323
9	Pima County	\$ 4,548
10	Test Year Late Fees	3,287
11	Test Year Web Fees	2,010
12	Test Year Other Charges	323
13	Adjusted Test Year Other Water Revenue	<u>\$ 22,491</u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2b
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT B TO EMPLOYEE PENSIONS AND BENEFITS

Line	Description	Amount
1	Test Year Salaries and Wages	\$ 226,744
2	Pension contribution rate	<u>4.00%</u>
3	Amount Proposed per Company Original Application	\$ 9,070
4	Staff Adjustment No. 3 per Schedule CSB-19	<u>(4,520)</u>
5	Total Adjustment B	<u>\$ 4,550</u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2c
Title: Income Statement Proforma
Adjustments

DETAIL OF PURCHASED POWER EXPENSES ADJUSTMENT C

Line	Description	Amount
1	4310 East Rex Street well test year purchased power expense	\$ 31,834
2	4410 East Rex Street well test year purchased power expense	22,485
3	5710 South Rex Street well test year purchased power expense	<u>20,270</u>
4	Three well total test year purchased power expense	\$ 74,589
5	Average	<u>3</u>
6	Three well average test year purchased power expense	<u><u>\$ 24,863</u></u>
7	Test Year Purchased Power expense	\$ 82,011
8	Proposed Purchased Power expense including average amount for three wells as estimated expense for new well #8 (6 + 7)	<u>106,874</u>
9	Total Adjustment C	<u><u>\$ 24,863</u></u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2d
Title: Income Statement Proforma
Adjustments

DETAIL OF OFFICE SUPPLIES AND EXPENSES ADJUSTMENT D

Line	Description	Amount
1	Reclassify internet payment credits from Miscellaneous Expenses	\$ (1,958)
2	Reclassify telephone expenses from Miscellaneous Expenses	5,104
3	Reclassify bank fees and other office related costs from Miscellaneous Expenses	7,308
4	Office alarm service not included in test year	255
5	Total Adjustment D	\$ 10,709

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2e
Title: Income Statement Proforma
Adjustments

DETAIL OF CONTRACTUAL SERVICES-TESTING EXPENSES ADJUSTMENT E

Description	Amount
Reclassify ADEQ MAP invoice from Miscellaneous Expenses	\$ 4,275
Staff Adjustment No. 5 per Schedule CSB-21	<u>965</u>
Total Adjustment E	<u>\$ 5,240</u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2f
Title: Income Statement Proforma
Adjustments

DETAIL OF CONTRACTUAL SERVICES-OTHER EXPENSES ADJUSTMENT F

Description	Amount
Reclassify Blue Stake invoice to Miscellaneous Expenses	\$ (546)
Total Adjustment F	\$ <u>(546)</u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2g
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT G TO RATE CASE EXPENSES

Line	Description	Amount
1	Estimated Rate Case Expenses	\$ 50,000
2	Amortization Period in years	<u>5</u>
3	Annual expense recovery	\$ 10,000
4	Subtract Actual Test Year Rate Case Expenses	<u>3,000</u>
5	Total Adjustment G	\$ <u><u>7,000</u></u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2h
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT H TO BAD DEBT EXPENSES

Description	Amount
Reclassify bad debts expenses from Miscellaneous Expenses	\$ 295
Total Adjustment H	\$ 295

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2i
Title: Income Statement Proforma
Adjustments

DETAIL OF MISCELLANEOUS EXPENSES ADJUSTMENT I

Line	Description	Amount	Account Total	Related Adj #
1	Reclassify internet payment credits to Office Supplies and Expenses	\$ 1,958		
2	Reclassify telephone expenses to Office Supplies and Expenses	(5,104)		
3	Reclassify bank fees and other office related costs to Office Supplies and Expenses	(7,308)	\$ (10,454)	Adj D
4	Reclassify ADEQ MAP invoice to Contractual Services - Testing	(4,275)	(4,275)	Adj E
5	Reclassify Blue Stake invoice from Contractual Services - Other	546	546	Adj F
6	Reclassify to Bad Debts Expenses	(295)	(295)	Adj H
7	Reclassify accrued payroll taxes to Taxes Other Than Income	(119)	(119)	Adj K
8	Remove ACC 2011 assessment amount paid from expense	(1,135)		N/A
9	Remove RUCO 2011 assessment amount paid from expense	(205)		N/A
10	Include amount incurred for preparation of 2011 Annual Winter Consumption Report for Pima County Wastewater Management	<u>2,126</u>		
11		Total Adjustment I	<u>\$ (13,811)</u>	

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2j
Title: Income Statement Proforma
Adjustments

DETAIL OF PROPOSED DEPRECIATION EXPENSE CALCULATION - ADJUSTMENT J

Line	Account Number	Description	Plant @ End of Test Year 31-Dec-11	Proposed Depreciation Rate	Ref	Proposed Depreciation Expense
1	301	Intangibles	\$ 700	0.00%		\$ -
2	303	Land & Land Rights	62,540	0.00%		-
3	304	Structures & Improvements	22,078	3.33%	1	276
4	307	Wells & Springs	1,673,803	3.33%	2	49,702
5	311	Pumping Equipment	873,230	12.50%		109,154
6	320	Water Treatment Equipment	-	20.00%		-
7	320.1	Water Treatment Plants	-	3.33%		-
8	320.2	Solution Chemical Feeders	-	20.00%		-
9	330	Distribution Reservoirs & Standpipes	106,345	2.22%	3	-
10	330.1	Storage Tanks	516,989	2.22%		11,477
11	330.2	Pressure Tanks.	1,032	5.00%		52
12	331	Transmission & Distribution Mains	1,160,777	2.00%	4	11,622
13	333	Services	526,754	3.33%		17,541
14	334	Meters & Meter Installations	113,643	8.33%	5	1,966
15	335	Hydrants	105,490	2.00%		2,110
16	339	Other Plant and Misc Equipment	2,902	6.67%		194
17	340	Office Furniture & Equipment	8,901	6.67%		594
18	340.1	Computers and Software	8,967	20.00%		1,793
19	341	Transportation Equipment	58,735	20.00%		11,747
20	343	Tools, Shop, and Garage Equipment	1,932	5.00%		97
21	346	Communication Equipment	1,494	5.00%		75
22	348	Other Tangible Plant	1,253	5.00%	6	-
23		Totals	\$ 5,247,565			\$ 218,398
24			Test Year Amortization of CIAC			(48,023)
25			Adjusted Depreciation Expense			\$ 170,375
26			Test Year Depreciation Expense			169,486
27	Ref		Total Adjustment J			\$ 889
28	1	\$13,781 of the total is fully depreciated.				
29	2	\$181,238 of the total is fully depreciated.				
30	3	The full \$106,345 in this category is fully depreciated.				
31	4	\$579,693 of the total is fully depreciated.				
32	5	\$90,046 of the total is fully depreciated.				
33	6	The total \$1,253 is fully depreciated.				

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2k
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT K TO TAXES OTHER THAN INCOME

Description	Amount
Reclassify accrued payroll taxes from Miscellaneous Expenses	\$ 119
Staff Adjustment No. 9 per Schedule CSB-25	<u>(1,533)</u>
Total Adjustment K	<u>\$ (1,414)</u>

DETAIL OF PROPERTY TAX EXPENSE ADJUSTMENTS L1 AND L2

Line		Test Year as Adjusted	Company at Proposed Rates
1	Adjusted 2011 Test Year Revenue	\$ 580,814	\$ 580,814
2	Weight Factor	2	2
3	Subtotal	\$ 1,161,628	\$ 1,161,628
4	Company Recommended Revenue	580,814	880,872
5	Subtotal	\$ 1,742,442	\$ 2,042,500
6	Number of Years	3	3
7	Three Year Revenue Average	\$ 580,814	\$ 680,833
8	AZ Department of Revenue Multiplier	2	2
9	Revenue Base Value	\$ 1,161,628	\$ 1,361,667
10	Plus 10% of CWIP	830	830
11	Less: Net Book Value of Licensed Vehicles	-	-
12	Full Cash Value	\$ 1,162,458	\$ 1,362,497
13	Assessment Ratio	21.00%	21.00%
14	Assessment Value	\$ 244,116	\$ 286,124
15	Composite Property Tax Rate *	13.2606%	13.2606%
16	Adjusted Test Year Property Tax Expense	\$ 32,371	
17	Actual Test Year Property Tax Expense	32,260	
18	Total Adjustment L1	\$ 111	
19		Projected Property Tax Expense	\$ 37,942
20		Adjusted Test Year Property Tax Expense	32,371
21		Total Adjustment L2	\$ 5,571
22	<i>* Property tax composite rate calculation:</i>		
23	Assessed Value per 2011 Property Tax Notices	\$ 242,022	
24	Property Tax due per 2011 Notices	32,094	
25	Composite Property Tax Rate	13.2606%	
26	<i>For Gross Revenue Conversion Factor:</i>		
27	Change in Property Tax Expense	\$ 5,571	
28	Change in Revenue Requirement	300,058	
29	Change in Property Tax per Dollar Increase in Revenue	1.8565%	

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2m
Title: Income Statement Proforma
Adjustments

CALCULATION OF ADJUSTMENT M TO TEST YEAR INCOME TAX EXPENSES

Line	Description		
1	Operating Income/(Loss) Before Taxes	\$ (146,477)	
2	Add Interest Income	492	
3	Less Estimated Interest Expense	<u>(5,020)</u>	
4	Arizona Taxable Income	\$ (151,005)	
5	Arizona Income Tax Rate	<u>6.9680%</u>	
6	Arizona Income Tax Expense		\$ (10,522)
7	Federal Taxable Income	\$ (140,483)	
8	Federal Tax on \$1 to \$50,000 Income Bracket	15.00% (7,500)	
9	Federal Tax on \$50,001 to \$75,000 Income Bracket	25.00% (6,250)	
10	Federal Tax on \$75,001 to \$100,000 Income Bracket	34.00% (8,500)	
11	Federal Tax on \$100,001 to \$335,000 Income Bracket	39.00% <u>(15,788)</u>	
12	Federal Income Tax Expense		<u>(38,038)</u>
13	Adjusted Test Year Income Tax Expense		\$ (48,560)
14	Test Year Income Tax Expense		<u>(43,940)</u>
15	Total Adjustment M to Income Taxes	\$	<u>(4,620)</u>

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2n
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT N TO NON-UTILITY EXPENSES

Description	Amount
Remove non-recurring expense	\$ 5,032
Total Adjustment N	\$ 5,032

Ray Water Company
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Rebuttal Schedule C-2o
Title: Income Statement Proforma
Adjustments

DETAIL OF INTEREST EXPENSES ADJUSTMENT O

Line	Description	Amount
1	Year 1 loan interest expense	\$ 6,039
2	Year 2 loan interest expense	5,561
3	Year 3 loan interest expense	5,052
4	Year 4 loan interest expense	4,511
5	Year 5 loan interest expense	<u>3,934</u>
6	Total interest on loan during 5 year period	\$ 25,098
7	Averaging period in years	<u>5</u>
8	Total Adjustment O	<u>\$ 5,020</u>

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2p
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT P TO PROPOSED METERED WATER REVENUE

Line	Description	Amount
1	Proposed Metered Water Revenue per Schedule A	\$ 858,381
2	Adjusted Test Year Metered Water Revenue	558,323
3	Total Adjustment P to Metered Water Revenue	\$ 300,058

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2q
Title: Income Statement Proforma
Adjustments

CALCULATION OF ADJUSTMENT Q FOR PROPOSED INCOME TAX EXPENSES

<u>Line</u>				
1	Revenue	\$	880,872	
2	Operating Expenses Excluding Income Tax		(732,862)	
3	Interest Income		492	
4	Estimated Interest Expense		(5,020)	
5	Arizona Taxable Income			\$ 143,483
6	Arizona Income Tax Rate			6.9680%
7	Arizona Income Tax Expense			\$ 9,998
8	Federal Taxable Income			\$ 133,485
9	Federal Tax Rate (from C-2m, line 18)			27.08%
10	Total Federal Income Tax Expense			\$ 36,144
11	Combined Federal and State Income Tax Expense			\$ 46,141
12	Adjusted Test Year Income Tax Expense			(48,560)
13	Adjustment Q to Proposed Income Tax Expense			\$ 94,702
14	Revenue Check:			
15	Required Operating Income	\$	101,869	
16	Adjusted Test Year Operating Income/(Loss)		(97,917)	
17	Proposed Increase In Operating Income			\$ 199,786
18	Income Taxes On Proposed Revenue	\$	46,141	
19	Income Taxes On Test Year Revenue		(48,560)	
20	Proposed Revenue Increase For Income Taxes			\$ 94,702
21	Property Taxes On Proposed Revenue	\$	37,942	
22	Property Taxes On Test Year Revenue		32,371	
23	Proposed Revenue Increase For Property Taxes			\$ 5,571
24	Total Proposed Increase In Revenue			\$ 300,058

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2r
Title: Income Statement Proforma
Adjustments

DETAIL OF ADJUSTMENT R TO TRANSPORTATION EXPENSES

Description	Amount
Total Shell Gas purchases per Staff	\$ 3,543
Number of Vehicles	<u>2</u>
Portion allocated to Lexus	\$ 1,772
Amount disallowed by Staff (75%)	(1,329)
Company proposed addition (25%)	443
Total Adjustment R	<u><u>\$ (886)</u></u>

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule C-3**Title: Computation of Gross Revenue****Conversion Factor**

Explanation:

Schedule showing incremental taxes on gross revenues and the development of a gross revenue conversion factor.

Required for: All Utilities

Class A

Class B

Class C

Class D

Speci Reqmt

☒☐☐☐☐☐

Line	Description	Rate	Calculation
1	Revenues		1.0000
2	Property Taxes	1.856%	<u>(0.0186)</u>
3	Arizona Taxable Income		0.9814
4	Arizona Income Tax	6.968%	<u>(0.0684)</u>
5	Federal Taxable Income		0.9130
6	Federal Income Tax	27.08%	<u>(0.2472)</u>
7	Operating Income		<u>0.6658</u>
8	Gross Revenue Conversion Factor (Line 1 / Line 7)		<u>1.5019</u>

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule D-1
Title: Summary Cost of Capital

Required for: All Utilities ☒ X
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

Explanation:
Schedule showing elements of capital structure
and the related cost.

Line	Invested Capital	End of Test Year				End of Projected Year			
		Amount	%	Cost Rate (e)	Composite Cost %	Amount	%	Cost Rate (e)	Composite Cost %
1	Long-Term Debt (a)	\$ 100,000	8.62%	6.25%	0.54%	\$ 84,653	7.40%	6.25%	0.46%
2	Preferred Stock (b)	-				-			
3	Common Equity (c)	1,059,483	91.38%	10.91%	9.97%	1,059,483	92.60%	10.91%	10.10%
4	Deferrals (d)	-				-			
5	Totals	\$ 1,159,483	100.00%		10.51%	\$ 1,144,136	100.00%		10.57%

Note: Due to the timing of the filing of Staff's Direct Cost of Capital Testimony, the Company has not had the opportunity to review Staff's supportive filing and have the ability, if necessary, to change it's proposed Rate of Return percentage from the original application.
As a result, the 10.57% amount is subject to change.

Supporting Schedules:

- (a) N/A
- (b) N/A
- (c) N/A
- (d) E-1

Recap Schedules:

- (e) N/A

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-1
Title: Comparative Balance
Sheet

Explanation:
Schedule showing comparative balance sheets at the end of the
test year and the 2 fiscal years ended prior to the test year.

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Specd Reqmt	<input type="checkbox"/>

Line	Acct #	ASSETS	Test Year At 31-Dec-11	Prior Year 31-Dec-10	Prior Year 31-Dec-09
1		Property, Plant & Equipment: (a)			
2	101	Utility Plant In Service	\$ 5,247,565	\$ 4,783,427	\$ 4,720,689
3	103	Property Held for Future Use			
4	105	Construction Work in Process	8,298	160,604	26,528
5	108	Accumulated Depreciation	(1,822,662)	(1,639,135)	(1,430,896)
6		Total Property Plant & Equipment	\$ 3,433,201	\$ 3,304,896	\$ 3,316,321
7		Current Assts:			
8	131	Cash	\$ 10,497	\$ 131,380	\$ 82,903
9	135	Temporary Cash Investments	66,109	141,617	286,388
10	141	Customer Accounts Receivable	33,285	39,590	24,336
11	146	Notes/Receivables from Associated Companies			
12	151	Plant Material and Supplies			
13	162	Prepayments	3,404	6,455	10,817
14	174	Miscellaneous Current and Accrued Assets	100,789	58,528	28,373
15		Total Current Assets	\$ 214,084	\$ 377,570	\$ 432,817
16		TOTAL ASSETS	\$ 3,647,285	\$ 3,682,466	\$ 3,749,138
17		LIABILITIES and CAPITAL			
18		Capitalization: (b)			
19	201	Common Stock Issued	\$ 16,000	\$ 16,000	\$ 16,000
20	211	Paid in Capital in Excess of Par Value	41,333	41,333	41,333
21	215	Retained Earnings	1,002,150	1,069,822	1,113,682
22	218	Proprietary Capital	-	-	-
23		Total Capital	\$ 1,059,483	\$ 1,127,155	\$ 1,171,015
24		Current Liabilities:			
25	231	Accounts Payable	\$ 17,880	\$ -	\$ -
26	232	Notes Payable (Current Portion)	7,224	-	-
27	234	Notes/Accounts Payable to Associated Companies		-	-
28	235	Customer Deposits	86,080	100,516	94,600
29	236	Accrued Taxes	24,109	23,608	25,565
30	237	Accrued Interest	4,167	-	-
31	241	Miscellaneous Current and Accrued Liabilities	-	9,064	4,585
32		Total Current Liabilities	\$ 139,460	\$ 133,188	\$ 124,750
33	224	Long-Term Debt (Over 12 Months)	\$ 92,776	\$ -	\$ -
34		Deferred Credits:			
35	252	Advances In Aid Of Construction	\$ 1,633,387	\$ 1,651,628	\$ 1,659,466
36	255	Accumulated Deferred Investment Tax Credits	260	553	959
37	271	Contributions In Aid Of Construction	982,352	982,352	957,335
38	272	Less: Amortization of Contributions	(260,433)	(212,410)	(164,387)
39	281	Accumulated Deferred Income Tax	-	-	-
40		Total Deferred Credits	\$ 2,355,566	\$ 2,422,123	\$ 2,453,373
41		Total Liabilities	\$ 2,587,802	\$ 2,555,311	\$ 2,578,123
42		TOTAL LIABILITIES and CAPITAL	\$ 3,647,285	\$ 3,682,466	\$ 3,749,138

Supporting Schedules:
(a) E-5

Recap Schedules:
(b) N/A

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-2
Title: Comparative Income
Statements

Explanation:
Schedule showing comparative income statements for the test year and the 2 fiscal years ended prior to the test year.

Required for: All Utilities ☒
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

Line	Acct #		Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
		Revenues: (a)			
1	461	Metered Water Revenue	\$ 559,457	\$ 579,956	\$ 592,308
2	460	Unmetered Water Revenue	-		
3	474	Other Water Revenue	26,651	19,186	42,864
4		Total Revenues	\$ 586,108	\$ 599,142	\$ 635,172
5		Operating Expenses (a)			
6	601	Salaries and Wages	\$ 226,744	\$ 226,621	\$ 229,174
7	604	Employee Pensions and Benefits	-	9,064	4,585
8	610	Purchased Water	-	-	-
9	615	Purchased Power	82,011	88,843	89,421
10	618	Chemicals	-		
11	620	Materials & Supplies	2,347	3,522	1,869
12	621	Office Supplies and Expense	11,481	15,126	17,318
13	630	Contractual Services - Billing	69,767		
14	631	Contractual Services - Professional	17,001	38,055	39,407
15	635	Contractual Services - Testing	1,375		
16	636	Contractual Services - Other	11,459		
17	640	Rents	22,000	22,000	22,000
18	650	Transportation Expenses	13,316	9,120	9,465
19	655	Insurance	10,590	17,448	18,982
20	665	Rate Case Expense	3,000	-	
21	670	Bad Debt Expense	-	-	-
22	675	Miscellaneous Expenses	23,473	20,987	24,879
23	403	Depreciation Expenses	169,486	156,411	135,116
24	408	Taxes Other Than Income	18,527	17,991	18,281
25	408.11	Property Taxes	32,260	33,202	35,705
26	409	Income Taxes	(43,940)	(31,936)	1,556
27	427.4	Interest Expense - Customer Deposits	5,713	396	369
28		Total Operating Expenses	\$ 676,610	\$ 626,850	\$ 648,127
28		OPERATING INCOME/(LOSS)	\$ (90,502)	\$ (27,708)	\$ (12,955)
29		Other Income/(Expense)			
30	419	Interest and Dividend Income	\$ 492	\$ 2,252	\$ 2,200
31	421	Non-Utility Income	4,548	-	(3,200)
32	426	Miscellaneous Non-Utility Expense	(5,032)	(1,097)	(250)
33	427	Interest Expense	-	-	-
34		Total Other Income/(Expense)	\$ 8	\$ 1,155	\$ (1,250)
35		NET INCOME/(LOSS)	\$ (90,494)	\$ (26,553)	\$ (14,205)

Supporting Schedules:
(a) N/A

Recap Schedules:
A-2

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule E-5**Title: Detail of Utility Plant****Explanation:**

Schedule showing utility plant balance, by detailed account number, at the end of the test year and the end of the prior fiscal year.

Required for: All Utilities

Class A

Class B

Class C

Class D

Spec'l Reqmt

X

Line	Account Number	Description	End of Prior Year at 31-Dec-10	Net Additions	End of Test Year at 31-Dec-11
1	302	Franchises	\$ 700		\$ 700
2	303	Land & Land Rights	62,540		62,540
3	304	Structures & Improvements	15,868	6,210	22,078
4	307	Wells & Springs	1,401,600	272,203	1,673,803
5	311	Pumping Equipment	712,466	160,764	873,230
6	320	Water Treatment Equipment	-		-
7	320.1	Water Treatment Plants	-		-
8	320.2	Solution Chemical Feeders	-		-
9	330	Distribution Reservoirs & Standpipes	106,345		106,345
10	330.1	Storage Tanks	516,989		516,989
11	330.2	Pressure Tanks.	-	1,032	1,032
12	331	Transmission & Distribution Mains	1,139,554	21,223	1,160,777
13	333	Services	526,281	473	526,754
14	334	Meters & Meter Installations	112,671	972	113,643
15	335	Hydrants	105,490		105,490
16	339	Other Plant and Misc Equipment	2,902		2,902
17	340	Office Furniture & Equipment	8,901		8,901
18	340.1	Computers and Software	8,967		8,967
19	341	Transportation Equipment	58,735		58,735
20	343	Tools, Shop, and Garage Equipment	671	1,261	1,932
21	346	Communications Equipment	1,494		1,494
22	348	Other Tangible Plant	1,253		1,253
23		Total Plant In Service	\$ 4,783,427	\$ 464,138	\$ 5,247,565
24	108	Accumulated Depreciation	(1,639,135)	(183,527)	(1,822,662)
25		Net Plant In Service	\$ 3,144,292	\$ 280,611	\$ 3,424,903
26	103	Property Held for Future Use	-	-	-
27	105	Construction Work in Process	160,604	(152,306)	8,298
28		Total Net Plant	\$ 3,304,896	\$ 128,305	\$ 3,433,201

Supporting Schedules:

Recap Schedules:

E-1 A-4

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule E-7**Title: Operating Statistics****Explanation:**

Schedule showing key operating statistics in comparative format,
for the test year and the 2 fiscal years ended prior to the test year.

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

Line	Water Statistics:	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Gallons Sold - By Class of Service:			
2	Residential	180,262,689	201,277,469	205,138,238
3	Commercial	28,391,223	31,709,531	32,317,762
4	Average Number of Customers - By Class of Service:			
5	Residential	1,473	1,473	1,485
6	Commercial	38	38	38
7	Average Annual Gallons Per Residential Customer	122,357	136,621	138,161
8	Average Annual Revenue Per Residential Customer	\$ 323.45	\$ 345.56	\$ 347.95
9	Pumping Cost Per 1,000 Gallons	\$ 0.3930	\$ 0.3813	\$ 0.3766

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-8
Title: Taxes Charged to Operations

Explanation:
Schedule showing all significant taxes charged to operations for the test year and the 2 fiscal years ended prior to the test year.

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

Line	Description	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Federal Taxes:			
2	Income	\$ (30,083)	\$ (21,934)	\$ (526)
3	Payroll	17,820	17,929	18,124
4	Total Federal Taxes	\$ (12,263)	\$ (4,005)	\$ 17,598
5	State Taxes:			
6	Income	\$ (13,857)	\$ (10,002)	\$ 2,082
7	Payroll	157	62	157
8	Total State Taxes	\$ (13,700)	\$ (9,940)	\$ 2,239
9	Local Taxes:			
10	Property	\$ 32,260	\$ 33,202	\$ 35,705
11	Rental Tax	550	-	-
12	Total Local Taxes	32,810	33,202	35,705
13	Total Taxes	\$ 6,847	\$ 19,257	\$ 55,542

NOTE: For combination utilities, the above should be presented in total and by department.

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-9
Title: Notes to Financial
Statements

Explanation:
Disclosure of important facts pertaining to the understanding
of the financial statements.

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

Disclosures should include, but not be limited to the following:

- 1 Accounting Method.
Accrual basis using the NARUC USoA.
- 2 Depreciation lives and methods employed by major classification of utility property.
For years up to and including the test year 2011, the depreciation rate was 5% for all plant asset categories. Proposed depreciation rates are depicted on Schedule C-2j, and were taken from ACC Engineering Staff Memo regarding their recommended rates for depreciation.
- 3 Income tax treatment - normalization or flow through.
Normalization.
- 4 Interest rate used to charge interest during construction, if applicable.
Not Applicable.

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-1
Title: Projected Income Statements -
Present and Proposed Rates

Explanation:

Schedule showing an income statement for the projected year, compared with actual test year results, at present and proposed rates.

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Specd Reqmt	<input type="checkbox"/>

Line		Projected Year		
		Actual Test Year Ended (a) 31-Dec-11	At Present Rates Year Ended (b) 31-Dec-12	At Proposed Rates Year Ended (b) 31-Dec-12
	Operating Revenues:			
1	461 Metered Water Revenue	\$ 559,457	\$ 558,323	\$ 858,381
2	460 Unmetered Water Revenue	-	-	-
3	474 Other Water Revenue	26,651	22,491	22,491
4	Total Operating Revenue	\$ 586,108	\$ 580,814	\$ 880,872
	Operating Expenses:			
5				
6	601 Salaries and Wages	\$ 226,744	\$ 196,485	\$ 196,485
7	604 Employee Pensions and Benefits	-	4,550	4,550
8	610 Purchased Water	-	-	-
9	615 Purchased Power	82,011	106,874	106,874
10	618 Chemicals	-	-	-
11	620 Materials & Supplies	2,347	2,347	2,347
12	621 Office Supplies and Expense	11,481	22,190	22,190
13	630 Contractual Services - Billing	69,767	69,767	69,767
14	631 Contractual Services - Professional	17,001	17,001	17,001
15	635 Contractual Services - Testing	1,375	6,615	6,615
16	636 Contractual Services - Other	11,459	10,913	10,913
17	640 Rents	22,000	22,000	22,000
18	650 Transportation Expenses	13,316	12,430	12,430
19	655 Insurance	10,590	10,590	10,590
20	665 Rate Case Expense	3,000	10,000	10,000
21	670 Bad Debt Expense	-	295	295
22	675 Miscellaneous Expenses	23,473	9,662	9,662
23	403 Depreciation Expenses	169,486	170,375	170,375
24	408 Taxes Other Than Income	18,527	17,113	17,113
25	408.1 Property Taxes	32,260	32,371	37,942
26	409 Income Taxes	(43,940)	(48,560)	46,141
27	427.4 Interest Expense - Customer Deposits	5,713	5,713	5,713
28	Total Operating Expenses	\$ 676,610	\$ 678,731	\$ 779,003
28	OPERATING INCOME/(LOSS)	\$ (90,502)	\$ (97,917)	\$ 101,869
	Other Income/(Expense):			
29				
30	419 Interest Income	\$ 492	\$ 492	\$ 492
31	421 Non-Utility Income	4,548	-	-
32	426 Miscellaneous Non-Utility Expenses	(5,032)	-	-
33	427 Interest Expense	-	(5,020)	(5,020)
34	Total Other Income/(Expense)	\$ 8	\$ (4,528)	\$ (4,528)
35	NET INCOME/(LOSS)	\$ (90,494)	\$ (102,445)	\$ 97,341
	Earnings per share of average			
36	Common Stock Outstanding	\$ (566)	\$ (640)	\$ 608
37	% Return on Common Equity	-0.053%	-0.060%	0.057%

Supporting Schedules:
(a) E-2

Recap Schedules:
(b) A-2

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-3
Title: Projected Construction
Requirements

Explanation:
Schedule showing projected annual construction requirements, by property classification, for 1 to 3 years subsequent to the test year compared with the test year.

Required for: All Utilities

Class A	<input checked="" type="checkbox"/>	3 yrs projected
Class B	<input checked="" type="checkbox"/>	
Class C	<input checked="" type="checkbox"/>	1 yrs projected
Class D	<input checked="" type="checkbox"/>	
Spec'l Reqmt	<input type="checkbox"/>	

Line	Property Classification	Actual Test Year Ended 12/31/2011	End of Projected Year 1
1	Production Plant	\$ 432,967	\$ 17,360
2	Transmission Plant	22,728	23,000
3	Other Plant	8,443	2,400
4	Total Plant	\$ 464,138	\$ 42,760

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-4
Title: Assumptions Used in
Developing Projection

Explanation:
Documentation of important assumptions used in preparing
forecasts and projections

Required for:	All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

Important assumptions used in preparing projections should be explained.

Areas covered should include:

1 Customer growth

As the system is nearly built out, no significant growth is expected in the service area in the future.

2 Growth in consumption and customer demand

Consumer demand has declined each year for the past three years, and the Company anticipates further decreases in customer consumption and demand as a result of the proposed tiered rate structure.

3 Changes in expenses

The Company believes the 2011 Test Year, with the proforma adjustments included in this application, accurately depict expense levels for the utility going forward.

4 Construction requirements including production reserves and changes in plant capacity

None projected.

5 Capital structure changes

None projected.

6 Financing costs, interest rates

The Company has one loan that was approved by the Commission at an interest rate of 6.25%

Supporting Schedules:

Recap Schedules:

INDEX OF BILL COUNT SCHEDULES FOR RAY WATER COMPANY

H-1	Summary of Revenues by Customer Class - Present and Proposed Rates
H-3	Changes In Representative Rate Schedules - (2 pages)
H-4 P1	Typical Bill Analysis - 5/8 x 3/4-inch Meter
H-4 P2	Typical Bill Analysis - 1-inch Meter
H-4 P3	Typical Bill Analysis - 1 1/2-inch Meter
H-4 P4	Typical Bill Analysis - 2-inch Meter
H-4 P5	Typical Bill Analysis - 3-inch Meter
H-4 P6	Typical Bill Analysis - 4-inch Meter
H-4 P7	Typical Bill Analysis - 6-inch Meter
H-4 P8	Typical Bill Analysis - Hydrant Sales
H-5 P1	Bill Count - 5/8 x 3/4-inch Residential
H-5 P2	Bill Count - 5/8 x 3/4-inch Commercial
H-5 P3	Bill Count - 1-inch Residential
H-5 P4	Bill Count - 1-inch Commercial
H-5 P5	Bill Count - 1 1/2-inch Residential
H-5 P6	Bill Count - 1 1/2-inch Commercial
H-5 P7	Bill Count - 2-inch Residential
H-5 P8	Bill Count - 2-inch Commercial
H-5 P9	Bill Count - 3-inch Commercial
H-5 P10	Bill Count - 4-inch Residential
H-5 P11	Bill Count - 4-inch Commercial
H-5 P12	Bill Count - 6-inch Commercial
H-5 P13	Bill Count - Hydrant Sales

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-1
Title: Summary of Revenues by Customer
Classification - Present and Proposed Rates

Explanation:
Schedule comparing revenues by customer classification for
the Test Year, at present and proposed rates.

Required for: All Utilities

Class A

Class B

Class C

Class D

Spec'l Reqmt

X

		Revenues in the Test Year (a)			Proposed Increase (b)		
Line	Customer Classification	Present Rates	Adjustments	Adjusted Present Rates	Proposed Rates	Amount	%
Residential							
1	5/8 by 3/4-inch	\$ 404,695		\$ 404,695	\$ 519,193	\$ 114,498	28.29%
2	1-inch	12,343		12,343	20,833	8,490	68.78%
3	1 1/2-inch	2,332		2,332	3,596	1,264	54.20%
4	2-inch	12,402		12,402	20,948	8,546	68.91%
5	4-inch	59,803		59,803	153,789	93,986	157.16%
6	Total Residential	\$ 491,575	\$ -	\$ 491,575	\$ 718,359	\$ 226,784	46.13%
Commercial							
7	5/8 by 3/4-inch	\$ 10,853		\$ 10,853	\$ 23,976	\$ 13,123	120.92%
8	1-inch	11,691		11,691	14,151	2,460	21.04%
9	1 1/2-inch	760		760	1,029	269	35.39%
10	2-inch	7,736		7,736	10,091	2,355	30.44%
11	3-inch	12,051		12,051	30,075	18,024	149.56%
12	4-inch	1,134	(1,134)	-	-	-	0.00%
13	6-inch	21,776		21,776	55,824	34,048	156.36%
14	Total Commercial	\$ 66,001	\$ (1,134)	\$ 64,867	\$ 135,146	\$ 70,279	108.34%
15	Hydrant Sales	1,881		1,881	\$ 4,876	2,995	159.22%
16	Total Metered Water Revenue	\$ 559,457	\$ (1,134)	\$ 558,323	\$ 858,381	300,058	53.74%
17	Other Revenue	26,651	(4,160)	22,491	22,491	-	0.00%
18	Total Revenue	\$ 586,108	\$ (5,294)	\$ 580,814	\$ 880,872	\$ 300,058	51.66%

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:

(a) N/A

Recap Schedules:

(b) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-3
Title: Changes in Representative Rate
Schedules - Page 1 of 2

Explanation:
Schedule comparing present rate schedules with proposed
rate schedule.

(Rates apply to both residential and commercial usage)

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

Description	Present Rate	Proposed Rate	% change
MONTHLY USAGE CHARGE:			
5/8" x 3/4" Meter	\$ 11.15	\$ 17.00	52.47%
3/4" Meter	25.00	25.50	2.00%
1" Meter	39.00	42.50	8.97%
1-1/2" Meter	62.00	85.00	37.10%
2" Meter	110.00	136.00	23.64%
3" Meter	125.00	272.00	117.60%
4" Meter	165.00	425.00	157.58%
6" Meter	330.00	850.00	157.58%

Description	Present Rate	Proposed Rate	
COMMODITY CHARGES - Per 1,000 Gallons			
All Meter Sizes			
1 - 3,000 Gallons	\$ 1.55	\$ 0.85	-45.16%
3,001 to 7,000 Gallons	1.55	1.25	-19.35%
7,001 to 25,000 Gallons	1.55	2.75	77.42%
Over 25,000 Gallons	1.55	4.02	159.35%
Standpipe sales			
Per 1,000 gallons	\$ 1.55	\$ 4.02	159.35%

Description	Present Rate	Proposed Rate	% change
SERVICE CHARGES			
Establishment	\$ 25.00	\$ 30.00	20.00%
Establishment (After Hours)	37.50	N/A	
Reconnection (Delinquent)	25.00	35.00	40.00%
Meter Test (If Correct)	30.00	30.00	0.00%
Deposit	*	*	0.00%
Deposit Interest	*	*	0.00%
Reestablishment (Within 12 Months)	**	**	0.00%
NSF Check	\$ 15.00	\$ 25.00	66.67%
Deferred Payment	***	***	0.00%
Meter Re-read (If Correct)	\$ 15.00	\$ 20.00	33.33%
Late Payment Fee	***	\$ 5.00	
After Hours Charge	N/A	\$ 25.00	

* Per A.A.C. R14-2-403(B)

** Months off system times the minimum (R14-2-403.D)

*** 1.50 percent per month of unpaid balance

SERVICE LINE AND METER INSTALLATION CHARGES:

Refundable Pursuant to A.A.C. R14-2-405		Proposed Rates			% change
Description	Present Rate	Service Line	Meter Charge	Total Charge	
5/8" x 3/4" Meter	\$ 410.00	\$ 445.00	\$ 155.00	\$ 600.00	46.34%
3/4" Meter	455.00	445.00	255.00	700.00	53.85%
1" Meter	520.00	495.00	315.00	810.00	55.77%
1-1/2" Meter	740.00	550.00	525.00	1,075.00	45.27%
2" Meter - Turbine	1,235.00	830.00	1,045.00	1,875.00	51.82%
2" Meter - Compound	1,800.00	830.00	1,890.00	2,720.00	51.11%
3" Meter - Turbine	1,705.00	1,045.00	1,670.00	2,715.00	59.24%
3" Meter - Compound	2,340.00	1,165.00	2,545.00	3,710.00	58.55%
4" Meter - Turbine	2,700.00	1,490.00	2,670.00	4,160.00	54.07%
4" Meter - Compound	3,405.00	1,670.00	3,645.00	5,315.00	56.09%
6" Meter - Turbine	5,035.00	2,210.00	5,025.00	7,235.00	43.69%
6" Meter - Compound	6,510.00	2,330.00	6,920.00	9,250.00	42.09%
8" Meter	Cost			Cost	0.00%

NOTES:

- A - Additional costs associated with service line installations in major traffic thoroughfares, such as but not limited to, underground borings, cutting and repaving, and traffic control, may be added to the above tariff at actual cost.
- B - Major thoroughfares are as follows: Alvernon Way, Drexal Road, Benson Highway, Irvington Road, Palo Verde, Valencia, Country Club, Columbus, East Side of Belvedere, Felix, Nebraska between Palo Verde and Madison, Northeast side of Concord Strav.
- C - Charges for meters and service lines larger than 6 inches shall be at actual cost.

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 1 of 8

Explanation: Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Required for: All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Speci Reqmt	<input type="checkbox"/>

5/8 x 3/4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	11.15 \$	17.00	52.47%
1,000	12.70	17.85	40.55%
2,000	14.25	18.70	31.23%
3,000	15.80	19.55	23.73%
4,000	17.35	20.80	19.88%
5,000	18.90	22.05	16.67%
6,000	20.45	23.30	13.94%
7,000	22.00	24.55	11.59%
8,000	23.55	27.30	15.92%
9,000	25.10	30.05	19.72%
10,000	26.65	32.80	23.08%
15,000	34.40	46.55	35.32%
20,000	42.15	60.30	43.06%
25,000	49.90	74.05	48.40%
50,000	88.65	174.55	96.90%
75,000	127.40	275.05	115.89%
100,000	166.15	375.55	126.03%
125,000	204.90	476.05	132.33%
150,000	243.65	576.55	136.63%
175,000	282.40	677.05	139.75%
200,000	321.15	777.55	142.11%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 2 of 8

Explanation: Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Required for: All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

1-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	39.00	\$ 42.50	8.97%
1,000	40.55	43.35	6.91%
2,000	42.10	44.20	4.99%
3,000	43.65	45.05	3.21%
4,000	45.20	46.30	2.43%
5,000	46.75	47.55	1.71%
6,000	48.30	48.80	1.04%
7,000	49.85	50.05	0.40%
8,000	51.40	52.80	2.72%
9,000	52.95	55.55	4.91%
10,000	54.50	58.30	6.97%
15,000	62.25	72.05	15.74%
20,000	70.00	85.80	22.57%
25,000	77.75	99.55	28.04%
50,000	116.50	200.05	71.72%
75,000	155.25	300.55	93.59%
100,000	194.00	401.05	106.73%
125,000	232.75	501.55	115.49%
150,000	271.50	602.05	121.75%
175,000	310.25	702.55	126.45%
200,000	349.00	803.05	130.10%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 3 of 8

Explanation:	Required for: All Utilities	<input checked="" type="checkbox"/>
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

1 1/2-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	62.00	\$ 85.00	37.10%
1,000	63.55	85.85	35.09%
2,000	65.10	86.70	33.18%
3,000	66.65	87.55	31.36%
4,000	68.20	88.80	30.21%
5,000	69.75	90.05	29.10%
6,000	71.30	91.30	28.05%
7,000	72.85	92.55	27.04%
8,000	74.40	95.30	28.09%
9,000	75.95	98.05	29.10%
10,000	77.50	100.80	30.06%
15,000	85.25	114.55	34.37%
20,000	93.00	128.30	37.96%
25,000	100.75	142.05	40.99%
50,000	139.50	242.55	73.87%
75,000	178.25	343.05	92.45%
100,000	217.00	443.55	104.40%
125,000	255.75	544.05	112.73%
150,000	294.50	644.55	118.86%
175,000	333.25	745.05	123.57%
200,000	372.00	845.55	127.30%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 4 of 8

Explanation:	Required for: All Utilities	<input checked="" type="checkbox"/>
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Speci Reqmt	<input type="checkbox"/>

2-Inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	110.00 \$	136.00	23.64%
1,000	111.55	136.85	22.68%
2,000	113.10	137.70	21.75%
3,000	114.65	138.55	20.85%
4,000	116.20	139.80	20.31%
5,000	117.75	141.05	19.79%
6,000	119.30	142.30	19.28%
7,000	120.85	143.55	18.78%
8,000	122.40	146.30	19.53%
9,000	123.95	149.05	20.25%
10,000	125.50	151.80	20.96%
15,000	133.25	165.55	24.24%
20,000	141.00	179.30	27.16%
25,000	148.75	193.05	29.78%
50,000	187.50	293.55	56.56%
75,000	226.25	394.05	74.17%
100,000	265.00	494.55	86.62%
125,000	303.75	595.05	95.90%
150,000	342.50	695.55	103.08%
175,000	381.25	796.05	108.80%
200,000	420.00	896.55	113.46%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 5 of 8

Explanation:	Required for: All Utilities	<input checked="" type="checkbox"/>
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

3-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	125.00	\$ 272.00	117.60%
1,000	126.55	272.85	115.61%
2,000	128.10	273.70	113.66%
3,000	129.65	274.55	111.76%
4,000	131.20	275.80	110.21%
5,000	132.75	277.05	108.70%
6,000	134.30	278.30	107.22%
7,000	135.85	279.55	105.78%
8,000	137.40	282.30	105.46%
9,000	138.95	285.05	105.15%
10,000	140.50	287.80	104.84%
15,000	148.25	301.55	103.41%
20,000	156.00	315.30	102.12%
25,000	163.75	329.05	100.95%
50,000	202.50	429.55	112.12%
75,000	241.25	530.05	119.71%
100,000	280.00	630.55	125.20%
125,000	318.75	731.05	129.35%
150,000	357.50	831.55	132.60%
175,000	396.25	932.05	135.22%
200,000	435.00	1,032.55	137.37%

Supporting Schedules:

Ray Water Company
 Docket No. W-01380A-12-0254
 Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 6 of 8

Explanation: Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Required for: All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	165.00	\$ 425.00	157.58%
1,000	166.55	425.85	155.69%
2,000	168.10	426.70	153.84%
3,000	169.65	427.55	152.02%
4,000	171.20	428.80	150.47%
5,000	172.75	430.05	148.94%
6,000	174.30	431.30	147.45%
7,000	175.85	432.55	145.98%
8,000	177.40	435.30	145.38%
9,000	178.95	438.05	144.79%
10,000	180.50	440.80	144.21%
15,000	188.25	454.55	141.46%
20,000	196.00	468.30	138.93%
25,000	203.75	482.05	136.59%
50,000	242.50	582.55	140.23%
75,000	281.25	683.05	142.86%
100,000	320.00	783.55	144.86%
125,000	358.75	884.05	146.43%
150,000	397.50	984.55	147.69%
175,000	436.25	1,085.05	148.72%
200,000	475.00	1,185.55	149.59%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 7 of 8

Explanation: Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Required for: All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

6-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	330.00	\$ 850.00	157.58%
1,000	331.55	850.85	156.63%
2,000	333.10	851.70	155.69%
3,000	334.65	852.55	154.76%
4,000	336.20	853.80	153.96%
5,000	337.75	855.05	153.16%
6,000	339.30	856.30	152.37%
7,000	340.85	857.55	151.59%
8,000	342.40	860.30	151.26%
9,000	343.95	863.05	150.92%
10,000	345.50	865.80	150.59%
15,000	353.25	879.55	148.99%
20,000	361.00	893.30	147.45%
25,000	368.75	907.05	145.98%
50,000	407.50	1,007.55	147.25%
75,000	446.25	1,108.05	148.30%
100,000	485.00	1,208.55	149.19%
125,000	523.75	1,309.05	149.94%
150,000	562.50	1,409.55	150.59%
175,000	601.25	1,510.05	151.15%
200,000	640.00	1,610.55	151.65%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis
Page 8 of 8

Explanation: Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.	Required for: All Utilities	<input checked="" type="checkbox"/>
	Class A	<input type="checkbox"/>
	Class B	<input type="checkbox"/>
	Class C	<input type="checkbox"/>
	Class D	<input type="checkbox"/>
	Spec'l Reqmt	<input type="checkbox"/>

Hydrant Sales

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
- \$	- \$	-	0.00%
1,000	1.55	4.02	159.35%
2,000	3.10	8.04	159.35%
3,000	4.65	12.06	159.35%
4,000	6.20	16.08	159.35%
5,000	7.75	20.10	159.35%
6,000	9.30	24.12	159.35%
7,000	10.85	28.14	159.35%
8,000	12.40	32.16	159.35%
9,000	13.95	36.18	159.35%
10,000	15.50	40.20	159.35%
15,000	23.25	60.30	159.35%
20,000	31.00	80.40	159.35%
25,000	38.75	100.50	159.35%
50,000	77.50	201.00	159.35%
75,000	116.25	301.50	159.35%
100,000	155.00	402.00	159.35%
125,000	193.75	502.50	159.35%
150,000	232.50	603.00	159.35%
175,000	271.25	703.50	159.35%
200,000	310.00	804.00	159.35%

Supporting Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Residential

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Specd Reqmt	<input type="checkbox"/>

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-	405	-	405	2.32%	-	0.00%
1,000	616	308,000	1,021	5.86%	308,000	0.23%
2,000	928	1,392,000	1,949	11.18%	1,700,000	1.24%
3,000	1,219	3,047,500	3,168	18.17%	4,747,500	3.48%
4,000	1,465	5,127,500	4,633	26.57%	9,875,000	7.23%
5,000	1,706	7,677,000	6,339	36.35%	17,552,000	12.85%
6,000	1,683	9,256,500	8,022	46.00%	26,808,500	19.63%
7,000	1,491	9,691,500	9,513	54.55%	36,500,000	26.73%
8,000	1,387	10,402,500	10,900	62.51%	46,902,500	34.34%
9,000	1,124	9,554,000	12,024	68.95%	56,456,500	41.34%
10,000	1,162	11,039,000	13,186	75.62%	67,495,500	49.42%
10,001 to 12,000	1,230	13,530,000	14,416	82.67%	81,025,500	59.33%
12,001 to 14,000	887	11,531,000	15,303	87.76%	92,556,500	67.77%
14,001 to 16,000	624	9,360,000	15,927	91.34%	101,916,500	74.63%
16,001 to 18,000	422	7,174,000	16,349	93.76%	109,090,500	79.88%
18,001 to 20,000	325	6,175,000	16,674	95.62%	115,265,500	84.40%
20,001 to 25,000	435	9,787,500	17,109	98.11%	125,053,000	91.57%
25,001 to 30,000	162	4,455,000	17,271	99.04%	129,508,000	94.83%
30,001 to 35,000	77	2,502,500	17,348	99.48%	132,010,500	96.66%
35,001 to 40,000	34	1,275,000	17,382	99.68%	133,285,500	97.60%
40,001 to 50,000	29	1,305,000	17,411	99.85%	134,590,500	98.55%
50,001 to 60,000	13	715,000	17,424	99.92%	135,305,500	99.08%
60,001 to 70,000	6	390,000	17,430	99.95%	135,695,500	99.36%
70,001 to 80,000	1	75,000	17,431	99.96%	135,770,500	99.42%
80,001 to 90,000	-	-	17,431	99.96%	135,770,500	99.42%
90,001 to 100,000	2	190,000	17,433	99.97%	135,960,500	99.55%
107,860	1	107,860	17,434	99.98%	136,068,360	99.63%
110,830	1	110,830	17,435	99.98%	136,179,190	99.71%
115,170	1	115,170	17,436	99.99%	136,294,360	99.80%
118,270	1	118,270	17,437	99.99%	136,412,630	99.89%
156,030	1	156,030	17,438	100.00%	136,568,660	100.00%
17,438		136,568,660				

Average Number of Customers 1,453
Average Consumption 7,832
Median Consumption 6,467

Supporting Schedules:

Recap Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Commercial

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-	11	-	11	8.94%	-	0.00%
1,000	17	8,500	28	22.76%	8,500	0.14%
2,000	6	9,000	34	27.64%	17,500	0.29%
3,000	12	30,000	46	37.40%	47,500	0.78%
4,000	7	24,500	53	43.09%	72,000	1.18%
5,000	5	22,500	58	47.15%	94,500	1.54%
6,000	4	22,000	62	50.41%	116,500	1.90%
7,000	2	13,000	64	52.03%	129,500	2.12%
8,000	1	7,500	65	52.85%	137,000	2.24%
9,000		-	65	52.85%	137,000	2.24%
10,000		-	65	52.85%	137,000	2.24%
10,001 to 12,000	4	44,000	69	56.10%	181,000	2.96%
12,001 to 14,000	6	78,000	75	60.98%	259,000	4.23%
14,001 to 16,000	2	30,000	77	62.60%	289,000	4.72%
16,001 to 18,000	4	68,000	81	65.85%	357,000	5.84%
18,001 to 20,000		-	81	65.85%	357,000	5.84%
20,001 to 25,000	7	157,500	88	71.54%	514,500	8.41%
25,001 to 30,000	8	220,000	96	78.05%	734,500	12.01%
30,001 to 35,000	2	65,000	98	79.67%	799,500	13.07%
35,001 to 40,000	1	37,500	99	80.49%	837,000	13.68%
40,001 to 50,000	2	90,000	101	82.11%	927,000	15.15%
50,001 to 60,000	1	55,000	102	82.93%	982,000	16.05%
60,001 to 70,000	1	65,000	103	83.74%	1,047,000	17.12%
70,001 to 80,000		-	103	83.74%	1,047,000	17.12%
80,001 to 90,000		-	103	83.74%	1,047,000	17.12%
90,001 to 100,000		-	103	83.74%	1,047,000	17.12%
100,800	1	100,800	104	84.55%	1,147,800	18.76%
105,900	1	105,900	105	85.37%	1,253,700	20.50%
110,600	1	110,600	106	86.18%	1,364,300	22.30%
112,200	1	112,200	107	86.99%	1,476,500	24.14%
138,000	1	138,000	108	87.80%	1,614,500	26.39%
143,000	1	143,000	109	88.62%	1,757,500	28.73%
143,400	1	143,400	110	89.43%	1,900,900	31.08%
157,300	1	157,300	111	90.24%	2,058,200	33.65%
159,800	1	159,800	112	91.06%	2,218,000	36.26%
160,200	1	160,200	113	91.87%	2,378,200	38.88%
164,700	1	164,700	114	92.68%	2,542,900	41.57%
170,000	1	170,000	115	93.50%	2,712,900	44.35%
225,100	1	225,100	116	94.31%	2,938,000	48.03%
229,800	1	229,800	117	95.12%	3,167,800	51.79%
267,400	1	267,400	118	95.93%	3,435,200	56.16%
268,700	1	268,700	119	96.75%	3,703,900	60.55%
375,700	1	375,700	120	97.56%	4,079,600	66.69%
381,700	1	381,700	121	98.37%	4,461,300	72.93%
805,000	1	805,000	122	99.19%	5,266,300	86.09%
850,600	1	850,600	123	100.00%	6,116,900	100.00%
123		6,116,900				

Average Number of Customers 10
Average Consumption 49,731
Median Consumption 5,875

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5

Title: Bill Count

Page 3 of 13

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec Reqmt	<input type="checkbox"/>

1-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-	4	-	4	3.33%	-	0.00%
1,000	3	1,500	7	5.83%	1,500	0.03%
2,000	4	6,000	11	9.17%	7,500	0.15%
3,000		-	11	9.17%	7,500	0.15%
4,000		-	11	9.17%	7,500	0.15%
5,000		-	11	9.17%	7,500	0.15%
6,000		-	11	9.17%	7,500	0.15%
7,000		-	11	9.17%	7,500	0.15%
8,000	2	15,000	13	10.83%	22,500	0.45%
9,000	11	93,500	24	20.00%	116,000	2.34%
10,000	6	57,000	30	25.00%	173,000	3.49%
10,001 to 12,000	1	11,000	31	25.83%	184,000	3.71%
12,001 to 14,000	1	13,000	32	26.67%	197,000	3.97%
14,001 to 16,000	1	15,000	33	27.50%	212,000	4.27%
16,001 to 18,000	4	68,000	37	30.83%	280,000	5.64%
18,001 to 20,000	4	76,000	41	34.17%	356,000	7.17%
20,001 to 25,000	14	315,000	55	45.83%	671,000	13.52%
25,001 to 30,000	14	385,000	69	57.50%	1,056,000	21.28%
30,001 to 35,000	9	292,500	78	65.00%	1,348,500	27.18%
35,001 to 40,000	16	600,000	94	78.33%	1,948,500	39.27%
40,001 to 50,000	3	135,000	97	80.83%	2,083,500	41.99%
50,001 to 60,000	4	220,000	101	84.17%	2,303,500	46.42%
60,001 to 70,000	4	260,000	105	87.50%	2,563,500	51.66%
70,001 to 80,000	2	150,000	107	89.17%	2,713,500	54.69%
80,001 to 90,000	2	170,000	109	90.83%	2,883,500	58.11%
90,001 to 100,000		-	109	90.83%	2,883,500	58.11%
106,760	1	106,760	110	91.67%	2,990,260	60.26%
123,680	1	123,680	111	92.50%	3,113,940	62.76%
150,000	1	150,000	112	93.33%	3,263,940	65.78%
175,000	1	175,000	113	94.17%	3,438,940	69.31%
184,390	1	184,390	114	95.00%	3,623,330	73.02%
184,660	1	184,660	115	95.83%	3,807,990	76.74%
194,190	1	194,190	116	96.67%	4,002,180	80.66%
208,700	1	208,700	117	97.50%	4,210,880	84.86%
236,290	1	236,290	118	98.33%	4,447,170	89.63%
243,860	1	243,860	119	99.17%	4,691,030	94.54%
270,930	1	270,930	120	100.00%	4,961,960	100.00%
		-	120	100.00%	4,961,960	100.00%
	120	4,961,960				

Average Number of Customers 10
Average Consumption 41,350
Median Consumption 25,357

Supporting Schedules:

Recap Schedules:

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule H-5**Title: Bill Count****Page 4 of 13**

Explanation:

Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities

Class A

Class B

Class C

Class D

Spec'l Reqmt

☒☐☐☐☐☐**1-Inch Meter - Commercial**

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-	16	-	16	7.24%	-	0.00%
1,000	62	31,000	78	35.29%	31,000	1.57%
2,000	32	48,000	110	49.77%	79,000	4.00%
3,000	14	35,000	124	56.11%	114,000	5.77%
4,000	11	38,500	135	61.09%	152,500	7.72%
5,000	9	40,500	144	65.16%	193,000	9.77%
6,000	5	27,500	149	67.42%	220,500	11.17%
7,000	6	39,000	155	70.14%	259,500	13.14%
8,000	5	37,500	160	72.40%	297,000	15.04%
9,000	4	34,000	164	74.21%	331,000	16.76%
10,000	1	9,500	165	74.66%	340,500	17.24%
10,001 to 12,000	6	66,000	171	77.38%	406,500	20.59%
12,001 to 14,000	2	26,000	173	78.28%	432,500	21.90%
14,001 to 16,000	3	45,000	176	79.64%	477,500	24.18%
16,001 to 18,000	3	51,000	179	81.00%	528,500	26.77%
18,001 to 20,000	4	76,000	183	82.81%	604,500	30.62%
20,001 to 25,000	13	292,500	196	88.69%	897,000	45.43%
25,001 to 30,000	4	110,000	200	90.50%	1,007,000	51.00%
30,001 to 35,000	5	162,500	205	92.76%	1,169,500	59.23%
35,001 to 40,000	2	75,000	207	93.67%	1,244,500	63.03%
40,001 to 50,000	5	225,000	212	95.93%	1,469,500	74.42%
50,001 to 60,000	8	440,000	220	99.55%	1,909,500	96.71%
60,001 to 70,000	1	65,000	221	100.00%	1,974,500	100.00%
70,001 to 80,000		-	221	100.00%	1,974,500	100.00%
80,001 to 90,000		-	221	100.00%	1,974,500	100.00%
90,001 to 100,000		-	221	100.00%	1,974,500	100.00%
<hr/>						
	221	1,974,500				

Average Number of Customers 18

Average Consumption 8,934

Median Consumption 2,036

Supporting Schedules:

Recap Schedules:

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule H-5**Title: Bill Count****Page 5 of 13**

Required for: All Utilities

Class A

Class B

Class C

Class D

Specd Reqmt

X

Explanation:

Schedule(s) showing billing activity by block for each rate schedule.

1 1/2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000	2	5,000	2	8.33%	5,000	0.90%
4,000	3	10,500	5	20.83%	15,500	2.80%
5,000	3	13,500	8	33.33%	29,000	5.24%
6,000	3	16,500	11	45.83%	45,500	8.22%
7,000	1	6,500	12	50.00%	52,000	9.39%
8,000		-	12	50.00%	52,000	9.39%
9,000		-	12	50.00%	52,000	9.39%
10,000		-	12	50.00%	52,000	9.39%
10,001 to 12,000		-	12	50.00%	52,000	9.39%
12,001 to 14,000		-	12	50.00%	52,000	9.39%
14,001 to 16,000		-	12	50.00%	52,000	9.39%
16,001 to 18,000		-	12	50.00%	52,000	9.39%
18,001 to 20,000	1	19,000	13	54.17%	71,000	12.83%
20,001 to 25,000	1	22,500	14	58.33%	93,500	16.89%
25,001 to 30,000	1	27,500	15	62.50%	121,000	21.86%
30,001 to 35,000	2	65,000	17	70.83%	186,000	33.60%
35,001 to 40,000	1	37,500	18	75.00%	223,500	40.38%
40,001 to 50,000	2	90,000	20	83.33%	313,500	56.64%
50,001 to 60,000	2	110,000	22	91.67%	423,500	76.51%
60,001 to 70,000	2	130,000	24	100.00%	553,500	100.00%
70,001 to 80,000		-	24	100.00%	553,500	100.00%
80,001 to 90,000		-	24	100.00%	553,500	100.00%
90,001 to 100,000		-	24	100.00%	553,500	100.00%
24		553,500				

Average Number of Customers 2

Average Consumption 23,063

Median Consumption 16,000

Supporting Schedules:

Recap Schedules:

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule H-5**Title: Bill Count****Page 6 of 13**

Explanation:

Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities

Class A

Class B

Class C

Class D

Spec'l Reqmt

X

1 1/2-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-		-	-	0.00%	-	0.00%
1,000	10	5,000	10	83.33%	5,000	50.00%
2,000	1	1,500	11	91.67%	6,500	65.00%
3,000		-	11	91.67%	6,500	65.00%
4,000	1	3,500	12	100.00%	10,000	100.00%
5,000		-	12	100.00%	10,000	100.00%
6,000		-	12	100.00%	10,000	100.00%
7,000		-	12	100.00%	10,000	100.00%
8,000		-	12	100.00%	10,000	100.00%
9,000		-	12	100.00%	10,000	100.00%
10,000		-	12	100.00%	10,000	100.00%
10,001 to 12,000		-	12	100.00%	10,000	100.00%
12,001 to 14,000		-	12	100.00%	10,000	100.00%
14,001 to 16,000		-	12	100.00%	10,000	100.00%
16,001 to 18,000		-	12	100.00%	10,000	100.00%
18,001 to 20,000		-	12	100.00%	10,000	100.00%
20,001 to 25,000		-	12	100.00%	10,000	100.00%
25,001 to 30,000		-	12	100.00%	10,000	100.00%
30,001 to 35,000		-	12	100.00%	10,000	100.00%
35,001 to 40,000		-	12	100.00%	10,000	100.00%
40,001 to 50,000		-	12	100.00%	10,000	100.00%
50,001 to 60,000		-	12	100.00%	10,000	100.00%
60,001 to 70,000		-	12	100.00%	10,000	100.00%
70,001 to 80,000		-	12	100.00%	10,000	100.00%
80,001 to 90,000		-	12	100.00%	10,000	100.00%
90,001 to 100,000		-	12	100.00%	10,000	100.00%
		-	12	100.00%	10,000	100.00%
	12	10,000				

Average Number of Customers 1

Average Consumption 833

Median Consumption 600

Supporting Schedules:

Recap Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities ☒
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-	6	-	6	9.84%	-	0.00%
1,000		-	6	9.84%	-	0.00%
2,000	1	1,500	7	11.48%	1,500	0.04%
3,000		-	7	11.48%	1,500	0.04%
4,000		-	7	11.48%	1,500	0.04%
5,000		-	7	11.48%	1,500	0.04%
6,000		-	7	11.48%	1,500	0.04%
7,000	1	6,500	8	13.11%	8,000	0.22%
8,000		-	8	13.11%	8,000	0.22%
9,000	1	8,500	9	14.75%	16,500	0.44%
10,000		-	9	14.75%	16,500	0.44%
10,001 to 12,000		-	9	14.75%	16,500	0.44%
12,001 to 14,000		-	9	14.75%	16,500	0.44%
14,001 to 16,000	3	45,000	12	19.67%	61,500	1.66%
16,001 to 18,000		-	12	19.67%	61,500	1.66%
18,001 to 20,000		-	12	19.67%	61,500	1.66%
20,001 to 25,000	6	135,000	18	29.51%	196,500	5.30%
25,001 to 30,000	2	55,000	20	32.79%	251,500	6.78%
30,001 to 35,000	2	65,000	22	36.07%	316,500	8.53%
35,001 to 40,000	2	75,000	24	39.34%	391,500	10.56%
40,001 to 50,000	4	180,000	28	45.90%	571,500	15.41%
50,001 to 60,000	6	330,000	34	55.74%	901,500	24.31%
60,001 to 70,000	6	390,000	40	65.57%	1,291,500	34.83%
70,001 to 80,000	2	150,000	42	68.85%	1,441,500	38.87%
80,001 to 90,000	5	425,000	47	77.05%	1,866,500	50.33%
90,001 to 100,000	4	380,000	51	83.61%	2,246,500	60.58%
100,300	1	100,300	52	85.25%	2,346,800	63.28%
118,900	1	118,900	53	86.89%	2,465,700	66.49%
120,900	1	120,900	54	88.52%	2,586,600	69.75%
122,100	1	122,100	55	90.16%	2,708,700	73.04%
139,500	1	139,500	56	91.80%	2,848,200	76.80%
146,800	1	146,800	57	93.44%	2,995,000	80.76%
168,700	1	168,700	58	95.08%	3,163,700	85.31%
176,100	1	176,100	59	96.72%	3,339,800	90.06%
179,100	1	179,100	60	98.36%	3,518,900	94.89%
189,600	1	189,600	61	100.00%	3,708,500	100.00%
		-	61	100.00%	3,708,500	100.00%
	61	3,708,500				

Average Number of Customers 5
Average Consumption 60,795
Median Consumption 50,417

Supporting Schedules:

Recap Schedules:

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule H-5**Title: Bill Count****Page 8 of 13**

Explanation:

Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities

☒

Class A

☐

Class B

☐

Class C

☐

Class D

☐

Specd Reqmt

☐**2-Inch Meter - Commercial**

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-	8	-	8	13.56%	-	0.00%
1,000	10	5,000	18	30.51%	5,000	0.61%
2,000	2	3,000	20	33.90%	8,000	0.97%
3,000	1	2,500	21	35.59%	10,500	1.27%
4,000	1	3,500	22	37.29%	14,000	1.70%
5,000	3	13,500	25	42.37%	27,500	3.33%
6,000	2	11,000	27	45.76%	38,500	4.67%
7,000	1	6,500	28	47.46%	45,000	5.45%
8,000	1	7,500	29	49.15%	52,500	6.36%
9,000	1	8,500	30	50.85%	61,000	7.39%
10,000	2	19,000	32	54.24%	80,000	9.70%
10,001 to 12,000	1	11,000	33	55.93%	91,000	11.03%
12,001 to 14,000	1	13,000	34	57.63%	104,000	12.61%
14,001 to 16,000	2	30,000	36	61.02%	134,000	16.24%
16,001 to 18,000	2	34,000	38	64.41%	168,000	20.36%
18,001 to 20,000	8	152,000	46	77.97%	320,000	38.79%
20,001 to 25,000	4	90,000	50	84.75%	410,000	49.70%
25,001 to 30,000	2	55,000	52	88.14%	465,000	56.36%
30,001 to 35,000	3	97,500	55	93.22%	562,500	68.18%
35,001 to 40,000	1	37,500	56	94.92%	600,000	72.73%
40,001 to 50,000		-	56	94.92%	600,000	72.73%
50,001 to 60,000		-	56	94.92%	600,000	72.73%
60,001 to 70,000	1	65,000	57	96.61%	665,000	80.61%
70,001 to 80,000	1	75,000	58	98.31%	740,000	89.70%
80,001 to 90,000	1	85,000	59	100.00%	825,000	100.00%
90,001 to 100,000		-	59	100.00%	825,000	100.00%
		59	825,000			

Average Number of Customers 5

Average Consumption 13,983

Median Consumption 8,500

Supporting Schedules:

Recap Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities

X

Class A

Class B

Class C

Class D

Specd Reqmt

3-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000		-	-	0.00%	-	0.00%
12,001 to 14,000		-	-	0.00%	-	0.00%
14,001 to 16,000		-	-	0.00%	-	0.00%
16,001 to 18,000		-	-	0.00%	-	0.00%
18,001 to 20,000		-	-	0.00%	-	0.00%
20,001 to 25,000		-	-	0.00%	-	0.00%
25,001 to 30,000		-	-	0.00%	-	0.00%
30,001 to 35,000	1	32,500	1	8.33%	32,500	0.48%
35,001 to 40,000		-	1	8.33%	32,500	0.48%
40,001 to 50,000		-	1	8.33%	32,500	0.48%
50,001 to 60,000	1	55,000	2	16.67%	87,500	1.29%
60,001 to 70,000		-	2	16.67%	87,500	1.29%
70,001 to 80,000		-	2	16.67%	87,500	1.29%
80,001 to 90,000		-	2	16.67%	87,500	1.29%
90,001 to 100,000	1	95,000	3	25.00%	182,500	2.68%
130,600	1	130,600	4	33.33%	313,100	4.60%
261,000	1	261,000	5	41.67%	574,100	8.44%
500,700	1	500,700	6	50.00%	1,074,800	15.80%
627,700	1	627,700	7	58.33%	1,702,500	25.02%
903,600	1	903,600	8	66.67%	2,606,100	38.30%
909,200	1	909,200	9	75.00%	3,515,300	51.66%
995,100	1	995,100	10	83.33%	4,510,400	66.29%
1,073,500	1	1,073,500	11	91.67%	5,583,900	82.07%
1,220,200	1	1,220,200	12	100.00%	6,804,100	100.00%
12		6,804,100				

Average Number of Customers 1
Average Consumption 567,008
Median Consumption 564,200

Supporting Schedules:

Recap Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

4-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-	10	-	10	27.78%	-	0.00%
1,000	1	500	11	30.56%	500	0.00%
2,000		-	11	30.56%	500	0.00%
3,000		-	11	30.56%	500	0.00%
4,000		-	11	30.56%	500	0.00%
5,000		-	11	30.56%	500	0.00%
6,000		-	11	30.56%	500	0.00%
7,000		-	11	30.56%	500	0.00%
8,000		-	11	30.56%	500	0.00%
9,000		-	11	30.56%	500	0.00%
10,000		-	11	30.56%	500	0.00%
10,001 to 12,000		-	11	30.56%	500	0.00%
12,001 to 14,000		-	11	30.56%	500	0.00%
14,001 to 16,000		-	11	30.56%	500	0.00%
16,001 to 18,000		-	11	30.56%	500	0.00%
18,001 to 20,000		-	11	30.56%	500	0.00%
20,001 to 25,000		-	11	30.56%	500	0.00%
25,001 to 30,000	1	27,500	12	33.33%	28,000	0.08%
30,001 to 35,000		-	12	33.33%	28,000	0.08%
35,001 to 40,000		-	12	33.33%	28,000	0.08%
40,001 to 50,000		-	12	33.33%	28,000	0.08%
50,001 to 60,000		-	12	33.33%	28,000	0.08%
60,001 to 70,000		-	12	33.33%	28,000	0.08%
70,001 to 80,000		-	12	33.33%	28,000	0.08%
80,001 to 90,000		-	12	33.33%	28,000	0.08%
90,001 to 100,000		-	12	33.33%	28,000	0.08%
350,000	1	350,000	13	36.11%	378,000	1.09%
370,000	1	370,000	14	38.89%	748,000	2.15%
433,000	1	433,000	15	41.67%	1,181,000	3.40%
487,000	1	487,000	16	44.44%	1,668,000	4.80%
778,000	1	778,000	17	47.22%	2,446,000	7.04%
820,400	1	820,400	18	50.00%	3,266,400	9.40%
886,000	1	886,000	19	52.78%	4,152,400	11.95%
935,000	1	935,000	20	55.56%	5,087,400	14.64%
940,000	1	940,000	21	58.33%	6,027,400	17.35%
967,000	1	967,000	22	61.11%	6,994,400	20.13%
1,055,000	1	1,055,000	23	63.89%	8,049,400	23.17%
1,064,000	1	1,064,000	24	66.67%	9,113,400	26.23%
1,101,000	1	1,101,000	25	69.44%	10,214,400	29.40%
1,121,000	1	1,121,000	26	72.22%	11,335,400	32.62%
1,387,000	1	1,387,000	27	75.00%	12,722,400	36.61%
1,614,000	1	1,614,000	28	77.78%	14,336,400	41.26%
1,668,000	1	1,668,000	29	80.56%	16,004,400	46.06%
1,731,000	1	1,731,000	30	83.33%	17,735,400	51.04%
2,124,000	1	2,124,000	31	86.11%	19,859,400	57.15%
2,357,000	1	2,357,000	32	88.89%	22,216,400	63.94%
2,403,000	1	2,403,000	33	91.67%	24,619,400	70.85%
2,510,000	1	2,510,000	34	94.44%	27,129,400	78.08%
2,772,000	1	2,772,000	35	97.22%	29,901,400	86.05%
4,846,000	1	4,846,000	36	100.00%	34,747,400	100.00%
36		34,747,400				

Average Number of Customers 3
Average Consumption 965,206
Median Consumption 853,200

Supporting Schedules:

Recap Schedules:

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

4-Inch Meter - Commercial

Required for: All Utilities	<input checked="" type="checkbox"/>
Class A	<input type="checkbox"/>
Class B	<input type="checkbox"/>
Class C	<input type="checkbox"/>
Class D	<input type="checkbox"/>
Spec'l Reqmt	<input type="checkbox"/>

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	% of Total	Cumulative Consumption Amount	% of Total
-	6	-	6	85.71%	-	0.00%
1,000		-	6	85.71%	-	0.00%
2,000		-	6	85.71%	-	0.00%
3,000		-	6	85.71%	-	0.00%
4,000		-	6	85.71%	-	0.00%
5,000		-	6	85.71%	-	0.00%
6,000		-	6	85.71%	-	0.00%
7,000		-	6	85.71%	-	0.00%
8,000		-	6	85.71%	-	0.00%
9,000		-	6	85.71%	-	0.00%
10,000		-	6	85.71%	-	0.00%
10,001 to 12,000		-	6	85.71%	-	0.00%
12,001 to 14,000		-	6	85.71%	-	0.00%
14,001 to 16,000		-	6	85.71%	-	0.00%
16,001 to 18,000		-	6	85.71%	-	0.00%
18,001 to 20,000		-	6	85.71%	-	0.00%
20,001 to 25,000		-	6	85.71%	-	0.00%
25,001 to 30,000	1	27,500	7	100.00%	27,500	100.00%
30,001 to 35,000		-	7	100.00%	27,500	100.00%
35,001 to 40,000		-	7	100.00%	27,500	100.00%
40,001 to 50,000		-	7	100.00%	27,500	100.00%
50,001 to 60,000		-	7	100.00%	27,500	100.00%
60,001 to 70,000		-	7	100.00%	27,500	100.00%
70,001 to 80,000		-	7	100.00%	27,500	100.00%
80,001 to 90,000		-	7	100.00%	27,500	100.00%
90,001 to 100,000		-	7	100.00%	27,500	100.00%
	7	27,500				

Average Number of Customers 1
Average Consumption 3,929
Median Consumption -

Supporting Schedules:

Recap Schedules:

Note:

One of the monthly minimum amounts was \$99 instead of \$165, so the bill count revenue generated must be reduced by \$66 to account for this partial month.

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count
Page 12 of 13

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities ☒
Class A ☐
Class B ☐
Class C ☐
Class D ☐
Spec'l Reqmt ☐

6-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-	1	-	1	8.33%	-	0.00%
1,000		-	1	8.33%	-	0.00%
2,000		-	1	8.33%	-	0.00%
3,000		-	1	8.33%	-	0.00%
4,000		-	1	8.33%	-	0.00%
5,000		-	1	8.33%	-	0.00%
6,000		-	1	8.33%	-	0.00%
7,000		-	1	8.33%	-	0.00%
8,000		-	1	8.33%	-	0.00%
9,000		-	1	8.33%	-	0.00%
10,000		-	1	8.33%	-	0.00%
10,001 to 12,000		-	1	8.33%	-	0.00%
12,001 to 14,000		-	1	8.33%	-	0.00%
14,001 to 16,000		-	1	8.33%	-	0.00%
16,001 to 18,000		-	1	8.33%	-	0.00%
18,001 to 20,000		-	1	8.33%	-	0.00%
20,001 to 25,000		-	1	8.33%	-	0.00%
25,001 to 30,000		-	1	8.33%	-	0.00%
30,001 to 35,000		-	1	8.33%	-	0.00%
35,001 to 40,000		-	1	8.33%	-	0.00%
40,001 to 50,000		-	1	8.33%	-	0.00%
50,001 to 60,000		-	1	8.33%	-	0.00%
60,001 to 70,000		-	1	8.33%	-	0.00%
70,001 to 80,000		-	1	8.33%	-	0.00%
80,001 to 90,000		-	1	8.33%	-	0.00%
90,001 to 100,000		-	1	8.33%	-	0.00%
248,000	1	248,000	2	16.67%	248,000	2.16%
267,000	1	267,000	3	25.00%	515,000	4.49%
766,000	1	766,000	4	33.33%	1,281,000	11.16%
507,000	1	507,000	5	41.67%	1,788,000	15.58%
567,000	1	567,000	6	50.00%	2,355,000	20.52%
735,000	1	735,000	7	58.33%	3,090,000	26.92%
904,000	1	904,000	8	66.67%	3,994,000	34.80%
972,000	1	972,000	9	75.00%	4,966,000	43.27%
1,420,000	1	1,420,000	10	83.33%	6,386,000	55.64%
1,833,000	1	1,833,000	11	91.67%	8,219,000	71.61%
3,258,000	1	3,258,000	12	100.00%	11,477,000	100.00%
		12	11,477,000			

Average Number of Customers 1
Average Consumption 956,417
Median Consumption 651,000

Supporting Schedules:

Recap Schedules:

Ray Water Company

Docket No. W-01380A-12-0254

Test Year Ended December 31, 2011

Rebuttal Schedule H-5**Title: Bill Count****Page 13 of 13****Explanation:**

Schedule(s) showing billing activity by block for each rate schedule.

Required for: All Utilities

Class A

Class B

Class C

Class D

Specd Reqmt

X

Hydrant Sales

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills		Cumulative Consumption	
			No.	% of Total	Amount	% of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000	1	11,000	1	16.67%	11,000	0.91%
12,001 to 14,000		-	1	16.67%	11,000	0.91%
14,001 to 16,000		-	1	16.67%	11,000	0.91%
16,001 to 18,000		-	1	16.67%	11,000	0.91%
18,001 to 20,000		-	1	16.67%	11,000	0.91%
20,001 to 25,000	1	22,500	2	33.33%	33,500	2.76%
25,001 to 30,000		-	2	33.33%	33,500	2.76%
30,001 to 35,000		-	2	33.33%	33,500	2.76%
35,001 to 40,000		-	2	33.33%	33,500	2.76%
40,001 to 50,000		-	2	33.33%	33,500	2.76%
50,001 to 60,000		-	2	33.33%	33,500	2.76%
60,001 to 70,000		-	2	33.33%	33,500	2.76%
70,001 to 80,000		-	2	33.33%	33,500	2.76%
80,001 to 90,000	1	85,000	3	50.00%	118,500	9.76%
90,001 to 100,000		-	3	50.00%	118,500	9.76%
232,852	1	232,852	4	66.67%	351,352	28.94%
319,396	1	319,396	5	83.33%	670,748	55.25%
543,230	1	543,230	6	100.00%	1,213,978	100.00%
<hr/>						
6		1,213,978				

Average Number of Customers

1

Average Consumption

202,330

Median Consumption

158,926

Supporting Schedules:

Recap Schedules:

ATTACHMENT 3

1
2
3
4 **BEFORE THE ARIZONA CORPORATION COMMISSION**

5
6 **Docket No. W-01380A-12-0254**

7
8
9
10
11
12
13 **REBUTTAL TESTIMONY**
14 **of**
15 **Kara D. Festa, P.E.**
16

17 **On Behalf of Ray Water Company, Inc.**
18
19
20
21
22
23
24
25
26

1 **REBUTTAL TESTIMONY OF KARA D. FESTA, P.E.**
2 **On Behalf of Ray Water Company, Inc.**

3 **Q. Please state your name and business address.**

4 A. My name is Kara D. Festa, P.E., and my business address is 4001 E. Paradise Falls
5 Drive, Tucson, Arizona, 85712.

7 **Q. By whom are you employed and in what capacity?**

8 A. I am employed by WestLand Resources, Inc. (WestLand), as a civil engineer, and I am
9 a principal of the company.

11 **Q. Please briefly describe your educational background and work experience.**

12 A. I have a Bachelors degree in Civil Engineering and Masters degree in Environmental
13 Engineering from the University of Arizona. I have been working in the engineering
14 field, primarily in water and wastewater planning and design, for 17 years, 14 of those
15 years at WestLand. I am Registered Professional Engineer in Arizona and New
16 Mexico.

18 **Q. Please describe your involvement with previous work for Ray Water Company.**

19 A. I have been working on water system engineering projects with Ray Water Company
20 (Company) since 2000, as a project engineer, project manager, and then in my
21 capacity as a principal with WestLand. My work with Company has included water
22 system hydraulic modeling and master planning, design for pipelines, booster stations,
23 reservoirs, and wells, and general operational and engineering assistance and advice.
24 I have overseen the equipment and site design for three new wells in the Company
25 system over the past 5 years, to replace older wells that exceeded their useful life. In
26

1 addition, I have assisted the water company during well outages, to help with
2 troubleshooting, selection of new well equipment, review of well videos and providing
3 engineering recommendations.
4

5 **Q. What is the purpose of your testimony?**

6 A. My testimony presents my professional opinion as to the existing reliable well
7 infrastructure and overall capacity and reliability of the Company well supplies, and
8 whether Well No. 8 provides excess capacity or is reasonably necessary to meet the
9 water demand of the Company system. My testimony also addresses engineering
10 issues relative to hydropneumatic tank capacity and the use of variable frequency
11 drives (VFDs) in the Company system and miscellaneous engineering items relative to
12 information in the ACC staff report.
13

14 **Q. Please summarize your conclusions regarding the matters addressed in your**
15 **testimony.**

16 A. The Ray Water Company has had a total of eight well sites in operation at various
17 times during the twelve years I have worked with the water company. Several wells
18 are approximately 30 to 40 years old and have reached the end of their useful
19 operating lives. The water company has slowly taken wells out of service and
20 discontinued their use as the casings have aged and damage has indicated that it was
21 no longer feasible to rely on those wells.
22

23 The water company currently has three wells in good operating condition that form the
24 backbone of the well capacity for this water company, Well Nos. 2D, 7 and 8. These
25 three wells provided more than 81 percent of the total well pumping for the water
26

1 system in the last 12 months. There are several other old wells in the water system, all
2 of which are in poor condition and do not represent a reliable, long-term supply for the
3 water company. Exhibit 1 illustrates this point.

4 Q. **What information and/or records did you review for this testimony?**

5 A. I reviewed well capacity information and historical data regarding the well drilling,
6 well inspections, and pumping equipment installations for Company Well Nos. 1
7 through 8. I also reviewed the testimony and staff report prepared by Dorothy Hains,
8 P.E.

9
10 Q. **Can you provide a summary of the well capacity and status of the well within the**
11 **water system right now?**

12 A. The current equipped and available capacities and the year drilled are provided in the
13 table below:

<i>Well No.</i>	<i>Year Drilled</i>	<i>GPM</i>	<i>In service</i>
1	1957	—	No
2d	2007	400	Yes
3	1969	185	Yes
4	1973	—	No
5	1963	—	No
6	1983	—	No, strictly a backup well
7	2007	325	Yes
8	2010	370	Yes
		<hr/> 1,280	

1 Q. **Can you provide a brief narrative regarding the status of each of the water**
2 **company's wells?**

3 A. The three wells that form the backbone of the water system are Well Nos. 2D, 7 and 8.
4 Well Nos. 2D and 7 were drilled in 2007, and Well No. 8 was drilled in 2010. These
5 new wells were drilled to replace failed or failing capacity of several nearby wells.
6

7 Well Nos. 1 and 5 were both over 40 years old when they were taken out of service in
8 2005 due to casing failure. Screen shots from well videos of these wells are set forth
9 in Exhibit 2. These photos provide an example of the gaping holes in the casings in
10 each of these wells.
11

12 Company has also experienced a number of issues with the well casings and pumping
13 capacities of Well Nos. 3, 4, and 6. Screen shots from well videos of these wells are
14 set forth in Exhibit 3. These photos provide an example of the gaping holes in the
15 casings in each of these wells. The conditions in each of these wells are similar to
16 those that led to Well Nos. 1 and 5 being taken out of service in 2005.
17

18 Well No. 4 is approximately 39 years old. The pump in Well No. 4 failed in mid-
19 2012, and during subsequent video investigation of the well it was discovered that the
20 casing has numerous holes, several of which are substantially larger than the last time
21 a well video was performed. The Company has not re-equipped the well with a pump
22 due to the condition of the well casing, and the likelihood of failure of the well casing.
23

24 Well No. 6 is approximately 29 years old. The capacity of Well No. 6 was replaced
25 by the capacity of the new Well No. 8, which was drilled on an adjacent site in 2010
26

1 due to the failing condition of Well No. 6. There is still a pump in Well No. 6, but the
2 well is generally unreliable and can be considered unavailable due to its structural
3 condition, as well as due to the interference effects between Well No. 6 and Well No.
4 8. These two wells cannot run at the same time, as they are right next to each other,
5 and there is only so much water available in any given area of the aquifer. For this
6 reason, the well controls are also set up so that Well No. 6 would need to be turned on
7 manually in the event of an outage of Well No. 8.

8
9 Well No. 3 is approximately 43 years old. The casing of Well No. 3 is in poor
10 condition, probably as poor as the condition of Well Nos. 4 and 6. The water
11 company continues to use this well to some extent because the well pumps to a
12 dedicated storage tank and booster station, and this facility provides supplemental
13 pressure to the northeastern area of the Company system. This well is not reliable
14 capacity, but the water company will probably have to continue to use this well as
15 long as it is capable of running.

16
17 **Q. How do you typically determine what well capacity should be provided in a water**
18 **system?**

19 **A.** A water company must have sufficient well capacity to meet the peak day usage, also
20 called Peak Day Demand, because the well source water has to be able to keep up with
21 the demands of the water system during the highest demand days of the year. This
22 typically occurs during early summer. There can be a series of days of very high
23 demand where the water company is essentially pumping at or near Peak Day Demand
24 values for a sustained period. In that situation, the wells would need to be running
25 nearly full-time just to keep the reservoirs full enough for the booster stations to meet
26

1 system demands. And in reality, due to the variability of demand over the day and
2 available reservoir capacity to accept the well supply, the wells may not be able to run
3 100% of the time even on Peak Day.

4
5 Because of how water system operates, we always need to have, at a minimum, at
6 least enough well capacity to meet Peak Day Demand. Because we also never know
7 when a well outage will occur due to casing failure or pumping and electrical
8 equipment issues, the accepted engineering recommendation is to be able to supply
9 Peak Day Demand with the largest well out of service.

10
11 **Q. What is the demand for well supply due to the current customers of Company?**

12 **A.** Company's wells pumped approximately 646,000 gallons per day or 450 gpm in 2011.
13 The standard peaking factor of two times the Average Day Demand provides a Peak
14 Day Demand of 900 gpm.

15
16 I would like to point out that Peak Day Demand should not be confused with other
17 types of peaking calculations. For example, the "calculated highest use" per customer
18 provided in the staff report (Phase 5, Section I, Water Sold) is the Average Day of the
19 Peak Month, rather than the Peak Day usage. Peak Day Demand is generally in the
20 range of 1.5 times higher than the Average Day of the Peak Month usage. The value
21 provided in that section of the report is also based on customer use, rather than well
22 pumping, which doesn't account for any lost and unaccounted for uses.

23
24 **Q. Can the Company meet the required Peak Day Demand of the existing water**
25 **system?**
26

1 A. If Well Nos. 2D, 3, 7 and 8 are in operation, then the water company can meet the
2 peak day demand of approximately 900 gpm. These wells have a total capacity of
3 1,280 gpm.
4

5 Q. **What would happen if the largest well was out of service, which is the criteria for**
6 **adequate well capacity?**

7 A. The largest well is Well No. 2D, with a capacity of 400 gpm. If this well is out of
8 service the available well capacity in the water system would be 880 gpm. This is less
9 than the calculated Peak Day Demand. Depending on when the outage occurred, the
10 Company may have to notify customers to reduce water use in this instance.
11

12 Q. **Could the water company operate Well No. 6 in that instance to increase**
13 **capacity?**

14 A. Not effectively. Well No. 8 was a replacement for the Well No. 6 capacity in the
15 water system. These two wells are very close to each other, and they each wouldn't be
16 able to produce their typical full flow if operated together. The water company might
17 be able to get enough together from the two wells to meet Peak Day Demand in an
18 emergency that is managed well.
19

20 Q. **What would be the case if Well No. 8 needed to be taken out of service?**

21 A. Well No. 6 would be useful in its capacity as a backup well. In that instance, the water
22 company could operate Well No. 6 in lieu of Well No. 8 in order to meet Peak Day
23 Demands.
24
25
26

1 Q. **What would you consider the reliable source water capacity of the Company**
2 **system?**

3 A. The reliable source capacity is about 1,095 gpm, from Well Nos. 2D, 7, and 8.
4

5 Q. **How would you characterize the remaining well capacity?**

6 A. The remaining well capacity is unreliable and all of the casings are known to be in
7 poor condition. The water company cannot consider these wells as reliable, long-term
8 capacity.
9

10 Q. **Can you give some examples of the types of issues that Company has experienced**
11 **with their wells?**

12 A. There are two general types of issues: (1) mechanical and electrical equipment
13 failures; and (2) casing failures. The older wells in Company produce significant sand
14 due to the holes in the casing and the general condition of the casing. Sanding in wells
15 causes premature failure of pumping equipment due to wear. Sanding issues and
16 general aging have caused pumps to be removed from service for repairs. In addition,
17 some pumps have experienced motor failures and other electrical equipment issues
18 that have caused the pumps to be removed from service for repairs.
19

20 When these types of equipment failures happen and the pump is removed from the
21 well, the water company typically takes the opportunity to video the well casing and
22 review the condition. As a result of these videos, the water company has also
23 documented problems, such as holes in the casing and plugged perforations. When
24 these problems are identified the wells are cleaned, patched or otherwise treated, but
25 many of these are short-term fixes to keep the wells up and operating as long as
26

1 possible. Sometimes, the well casing is found to be in such poor condition that it
2 would be a waste of money to put another pump in the hole, due to the sanding issues
3 that would damage the pump, and the potential for collapse of the well.
4

5 **Q. When these types of issues occur, how long are the wells out of service?**

6 A. It can vary from a few days to a few weeks for a mechanical or electrical failure, and
7 from a few weeks to a month or more for casing inspection, rehabilitation, and repairs.
8 For the worst casing issues, wells have been taken out of service permanently.
9

10 **Q. How long does it take to drill and equip a new well, and what is involved?**

11 A. A water company should plan on a minimum of approximately 12 months for a well
12 replacement project. There are two separate construction phases in a well replacement
13 project, well drilling and then site construction. Both phases typically involve
14 preparation of plans and/or specifications, bidding for the construction services, and
15 the actual construction work. There are also permits that must be obtained prior to
16 well drilling and prior to construction of the well site and equipping the well.
17

18 The water company would typically have a specification prepared by a hydrogeologist
19 for the well replacement. The hydrogeologist would also help the water company
20 apply for the Arizona Department of Water Resources (ADWR) well drilling permit.
21 The water company would then obtain bids from multiple licensed well drillers to
22 obtain a competitive price, and select a driller to perform the work based on price and
23 availability. Once the driller is selected, ADWR can complete and issue the well
24 permit. Depending upon the availability of drillers, there can sometimes be a wait of
25 weeks or months before the driller mobilizes to the site. The well drilling, casing,
26

1 development, and testing typically take 4 to 6 weeks, but the entire process for
2 specifications, bidding, permitting and construction would typically take 3 to 4
3 months.

4
5 The testing of the well provides the information needed for the sizing of the well
6 pump. Then the engineer can complete the well equipping plans and specifications
7 and submit to the Arizona Department of Environmental Quality (ADEQ) for
8 Approval to Construct. The construction plans are typically bid to multiple
9 contractors to ensure a competitive price. The engineering plans and specifications,
10 bidding, permitting and construction would typically take 7 to 8 months.

11
12 These timeframe for the well replacement project could be compressed somewhat,
13 perhaps to a timeframe of 6 to 8 months, at significant additional cost to the water
14 company.

15
16 **Q. When an at-risk well has to be taken out of service due to casing failure, it could**
17 **take up to a year or more to replace that well capacity, and during that time the**
18 **water company may not have adequate capacity to serve customer demands?**

19 **A.** That is correct.

20
21 **Q. What was the timeframe for the construction of Well No. 8?**

22 **A.** Well No. 8 took approximately 16 months from the start of preparation of the well
23 drilling specifications to the completion of construction and operation of the new well.
24
25
26

1 Q. **Did any of the other wells fail during the time that Well No. 8 was under**
2 **construction?**

3 A. Fortunately, no. As I mentioned previously, Well No. 4 was taken out of service in
4 May of 2012 due to pump failure. In addition, Well No. 6 has not been used during
5 2012 due to the casing condition and sanding issues, as well as its proximity to Well
6 No. 8.

7
8 Q. **Could you summarize your professional opinion about the well capacity of the**
9 **Company system?**

10 A. I believe that Company has reliable well capacity in the three backbone well facilities,
11 Well No. 2D, 7 and 8, and some additional available capacity in Well No. 3 although
12 this well is in poor condition and should not be pumped strenuously. The other wells
13 in the system are not reliable capacity, and due to prudent planning, the water
14 company no longer has to rely on these failing wells.

15
16 Due to the history of well failures and the condition of the casings of several older
17 wells, the water company's approach to proactive well capacity replacement is prudent
18 engineering practice and sensible water system operation. Well No. 8 is not only used
19 and useful, but critical to the reliable operation of Company to meet customer
20 demands.

21
22 Q. **There is a section in Staff's testimony (Page 4, Section II.b. Hydropneumatic**
23 **Tank) that states "[t]he Ray Water system does not have adequately sized**
24 **pressure vessels. In lieu of installing additional pressure tank capacity Ray has**
25 **installed multiple variable frequency drive ("VFD") motors to address the issue."**
26

1 **Is this an accurate assessment of the hydropneumatic tank capacity and the**
2 **purpose of the variable frequency driven pumps in the Ray Water Company**
3 **system?**

4 A. No. This is a misunderstanding on the part of ACC staff regarding both the
5 appropriate sizing of hydropneumatic tanks in a system such as the Company, and the
6 purpose and function of VFD pumps in a water system.

7
8 There is a section of Arizona Department of Environmental Quality Engineering
9 Bulletin No. 10, the addresses design of hydropneumatic tanks. It states that
10 “[h]ydropneumatic tanks shall be sized such that the system can supply instantaneous
11 demand for a minimum of 20 minutes”. However, there are a number of other
12 statements in Bulletin 10 that are relevant and that should be considered when
13 determining an appropriate hydropneumatic tank volume for a water plant site and for
14 an overall water system. The Company system are more complex than the types of
15 systems that were contemplated when Bulletin No. 10 was published in 1978, and
16 these facilities are significantly larger in capacity, with more ground storage and
17 booster pump capacity, than the types of systems which I believe that section of
18 Bulletin No. 10 was written to address.

19
20 Further, the sentence above needs to be considered in context of the entire section,
21 which states:

22 Correct sizing of a hydropneumatic tank is important because the size of
23 the tank directly determines the frequency of pump cycling. If the tank is
24 too small in relation to system demands, the pump must cycle excessively,
25 prematurely wearing out the pump motor. Normal pump cycling is in the
26 range of 2 to 6 times per hour. A tank that is too large in relation to
 system requirements does not take advantage of the hydropneumatic
 concept. Because hydropneumatic tanks to do not effectively provide

1 storage, the pumps serving the system must be able to supply the peak
2 demand within the required pressure range.

3 Hydropneumatic tanks shall be sized such that the system can supply
4 instantaneous demand for a minimum of 20 minutes. Consideration may
5 be given to the inflow pumping rate in the system design.

6 Instantaneous demand shall be determined from Table 3, "Tabulated
7 Maximum Instantaneous Flows", or from historical records. The demand
8 and pumping rate are in units of gallons per minute (gpm). If the well or
9 other water supply cannot provide enough water for maximum use, ground
10 level storage shall make up the difference.

11 A minimum of 2 pumps shall be provided above a maximum
12 instantaneous demand rate of 105 gpm." (Emphasis added).

13 The primary point that should be taken from Bulletin No. 10 is that these guidelines
14 are intended to make sure that proper pump cycling is maintained, and adequate
15 pressure is provided to the water system even under the highest system demands.

16 In the Company system there are booster pumps providing sufficient capacity to meet
17 maximum instantaneous demands, and these boosters are sized to supply adequate
18 flow and pressure to the system under all demand conditions. The total booster station
19 capacity in the system is in excess of the calculated maximum instantaneous demands
20 per Bulletin No. 10, because booster capacity includes sufficient capacity for peak day
21 demand plus commercial fire flow requirements. In addition, there is a sufficient
22 volume of storage tanks to supply the source for booster stations, such that the
23 hydropneumatic tank does not need to also provide storage volume for the
24 system. With the appropriately sized booster stations and storage tanks in the Ray
25 Water Company system, the main purpose of the hydropneumatic tanks becomes
26 simply surge protection, and to provide some operational volume to keep pump
cycling at a reasonable number of starts per hour.

1
2 As a final complexity in trying to apply Bulletin No. 10 calculations to the Ray Water
3 Company system, their highest capacity booster pump station is controlled by variable
4 frequency drives (VFDs), which eliminate the need for a hydropneumatic tank due to
5 the nature of the pumps. VFD controlled pumps do not start and stop (cycle) based on
6 pressure controls on a hydropneumatic tank, but rather ramp up and down in speed to
7 meet the system demand. This type of system operation and control generally didn't
8 exist in water systems in 1978 when Bulletin No. 10 was written, but are quite
9 common in water systems now. This type of operation thoroughly changes
10 (eliminates) the requirements for a hydropneumatic tank for pump operation. These
11 systems require the smaller volume bladder tanks for proper operation.
12

13 All of these things combined should be considered when determining how to
14 appropriately design and operate a water system, and size hydropneumatic tanks. The
15 Company system has more than sufficient storage and booster pump capacity to meet
16 instantaneous demands, and pump cycling is reasonable and has not caused undue
17 wear or stress on the pumps and motors over Ray Water Company's many years of
18 operation.
19

20 **Q. Are the hydropneumatic tanks in the Ray Water Company system adequately**
21 **sized?**

22 **A.** The hydropneumatic tanks are adequately sized for the satisfactory operation of this
23 water system, and the Company does not have pressure or water delivery issues, or
24 pump cycling issues, associated with inadequate hydropneumatic tank capacity.
25
26

1 Q. **Is there anything unusual about using VFD pumps in water systems in general,**
2 **or in the Company system specifically?**

3 A. No, VFDs are very common in water systems of all sizes, and they are in an
4 appropriate application in the Ray Water Company system.
5

6 Q. **Do you think that the recommended “formal study” regarding the sizing of**
7 **hydropneumatic tanks and use of VFDs is necessary?**

8 A. No, the recommended study would not serve a useful purpose.
9

10 Q. **How much might something like this “formal study” cost?**

11 A. To provide an engineering evaluation, calculations, cost estimates, and stamped report
12 could cost in the range of \$10,000 to \$20,000, depending on the final scope of the
13 work agreed upon for the project.
14

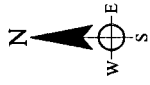
15 Q. **Do you have any other comments regarding the staff report filed in this case?**

16 A. Yes, there are a number of minor errors in numbers and dates on the schematics
17 provided in the staff report, which are also carried through the report in tables and text.
18 A copy of the corrected schematics is set forth in Exhibit 4.
19

20 Q. **Does this conclude your testimony?**

21 A. Yes, it does.
22
23
24
25
26

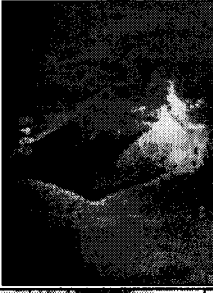
EXHIBIT 1



LEGEND
--- WATER SERVICE
--- BOUNDARY
X INACTIVE

WELL NO. 3

ADWR #55-609464
CAPACITY 185 GPM
DRILLED IN: 1989



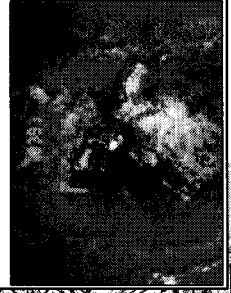
WELL NO. 4

ADWR #55-609465
CAPACITY 110 GPM
CURRENTLY OUT OF SERVICE -
NO PUMP IN WELL
DRILLED IN: 1973



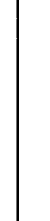
WELL NO. 6

ADWR #55-505023
CAPACITY 290 GPM
CURRENTLY AVAILABLE FOR
BACKUP CAPACITY ONLY
DRILLED IN: 1983



WELL NO. 8

ADWR #55-219154
CAPACITY 360 GPM
DRILLED IN: 2010



WELL NO. 7

ADWR #55-212103
CAPACITY 325 GPM
DRILLED IN: 2007



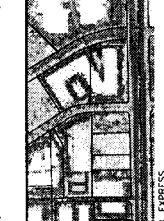
WELL NO. 5

ADWR #55-609466
CAPACITY 150 GPM
DRILLED IN: 1983



WELL NO. 2

ADWR #55-214966
2D CAPACITY 400 GPM
DRILLED IN: 2007
CAPACITY 150 GPM
DRILLED IN: 1983
2B CAPACITY 350 GPM
DRILLED IN: 1992
2C CAPACITY 200 GPM
DRILLED IN: 2004



WELL NO. 1

ADWR #55-609462
CAPACITY 150 GPM
DRILLED IN: 1957

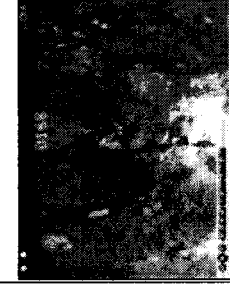
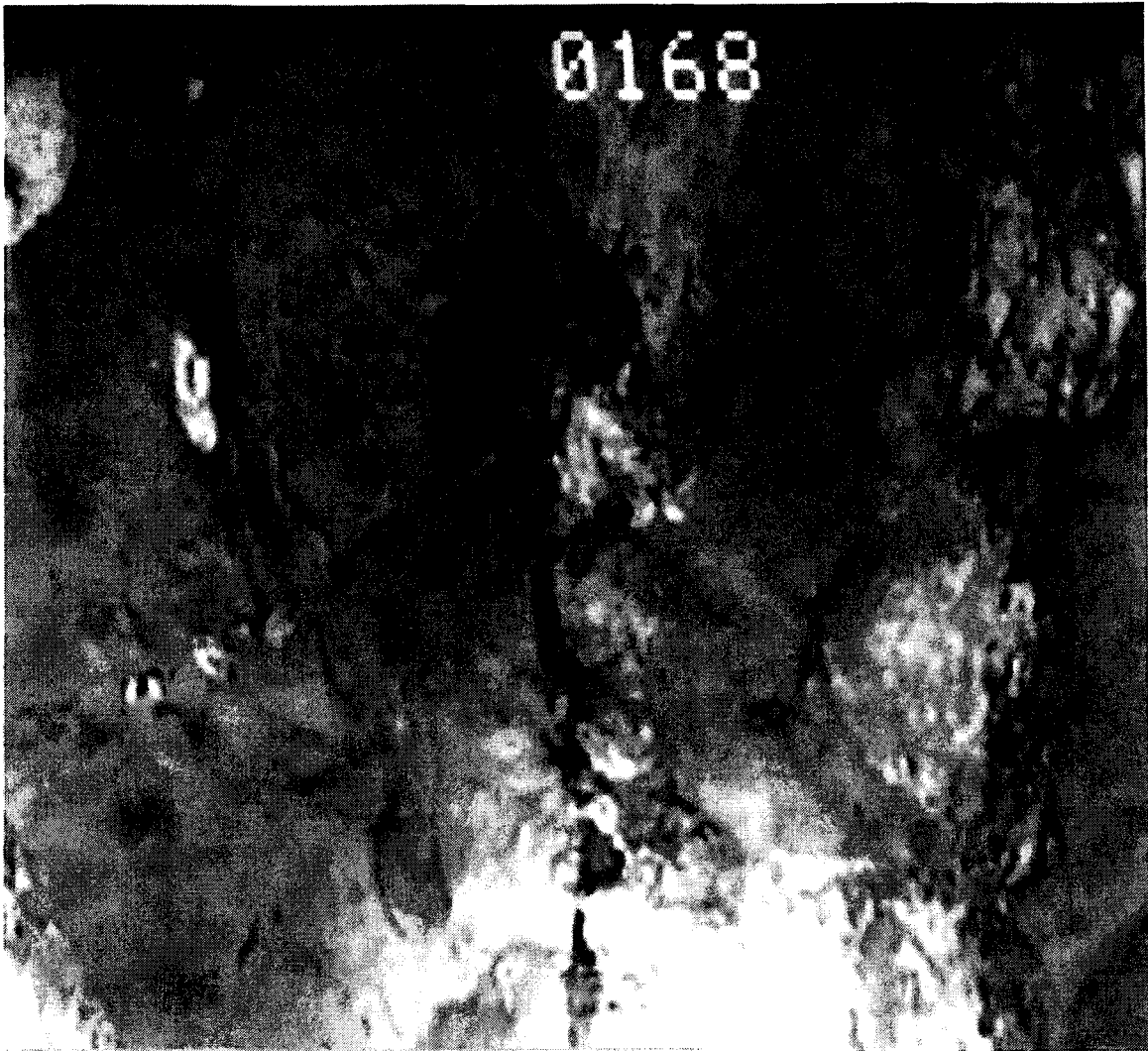


PHOTO SOURCE: 2010 AERIAL EXPRESS

Westland Resources, Inc.
Region • People • Progress
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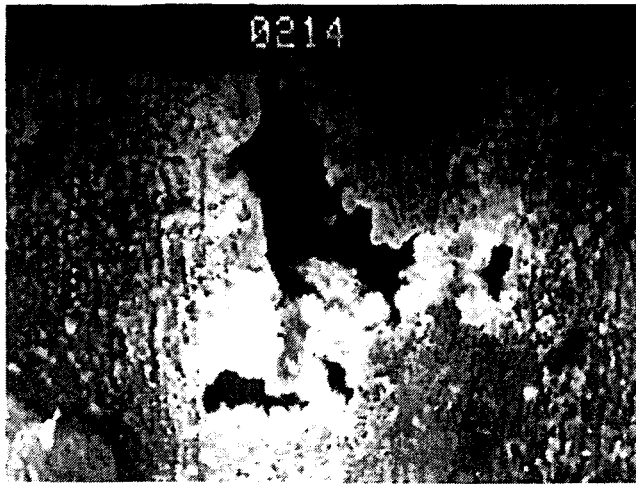
RAY WATER COMPANY
WATER WELL STATUS
DECEMBER 17, 2012

EXHIBIT 2



Side view of Well No. 1 at 166 feet* below land surface, showing vertical split and hole in well casing.

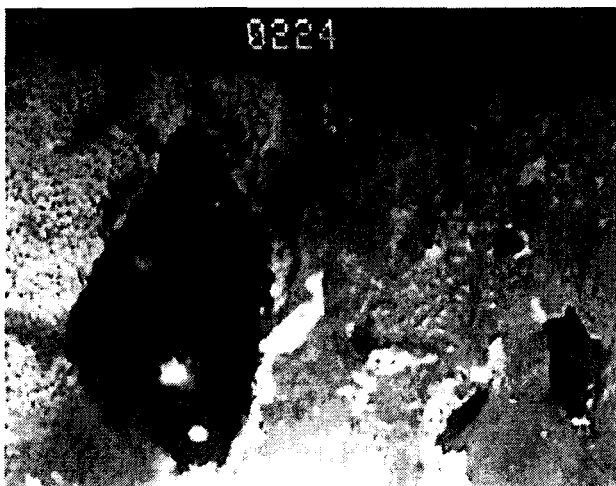
*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



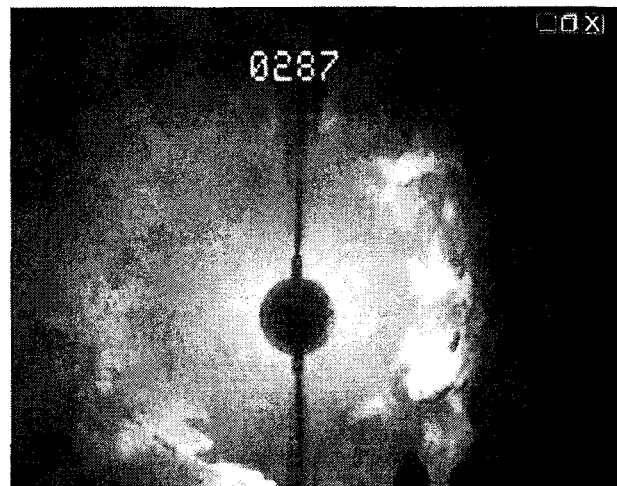
Side view of Well No. 5 at 212 feet below land surface, showing large corrosion hole in the well casing.*



Side view of Well No. 5 at 215 feet below land surface, showing multiple corrosion holes in the well casing.*



Side view of Well No. 5 at 222 feet below land surface, showing multiple corrosion holes in the well casing.*



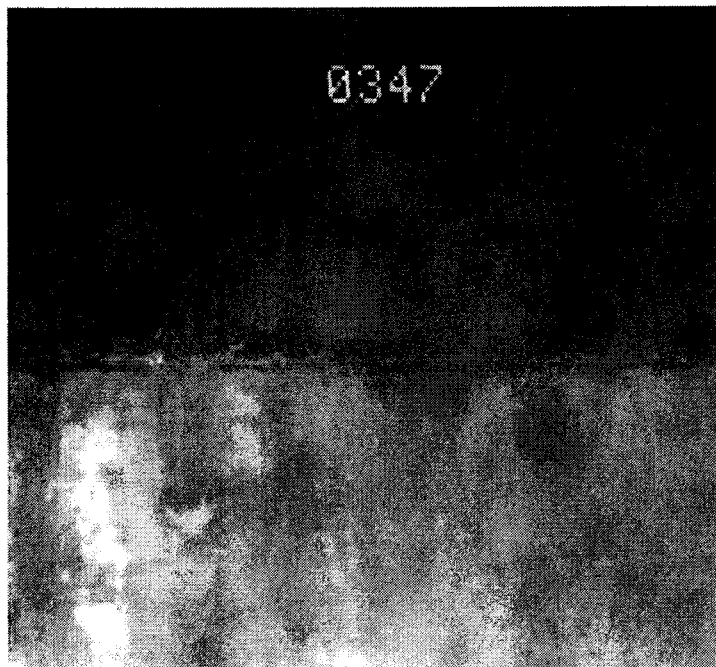
Downward view of Well No. 5 at 287 feet below land surface, showing extensive corrosion, with about 1/3 of well casing completely gone.*

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 3

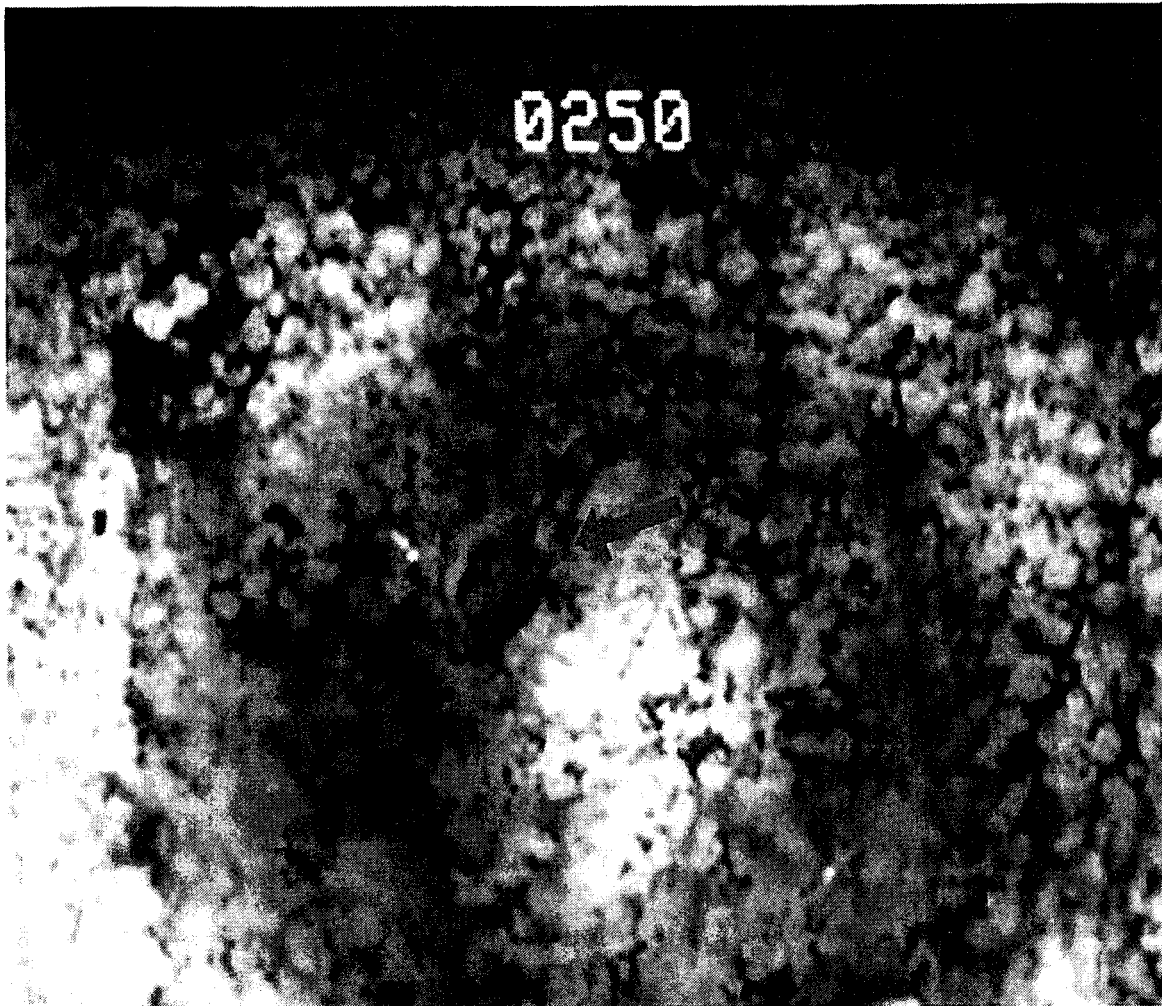


Side view of Well No. 3 at 347 feet below land surface, showing a corrosion hole in the well casing.*



Side view of Well No. 3 at 345 feet below land surface, showing the top edge (see arrow) of the casing patch that was installed from 345 to 349 feet.*

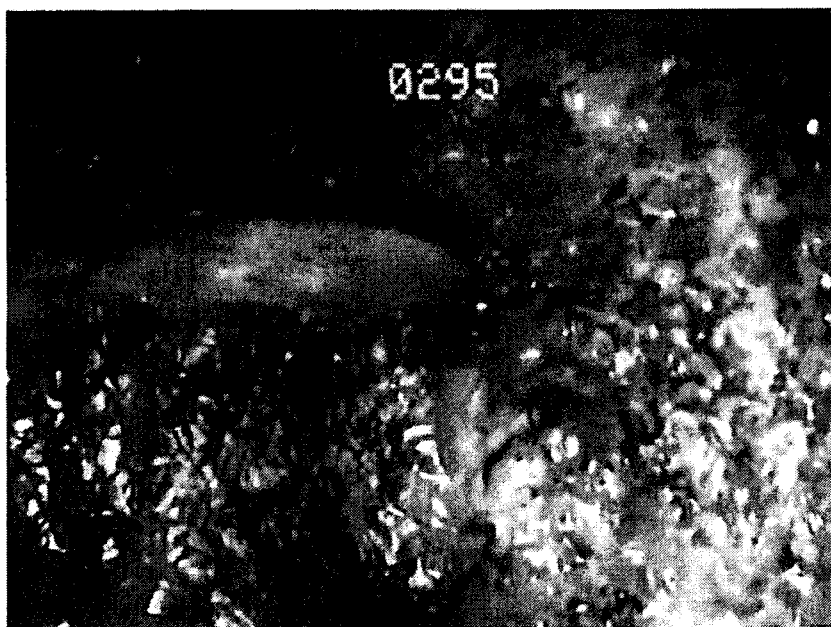
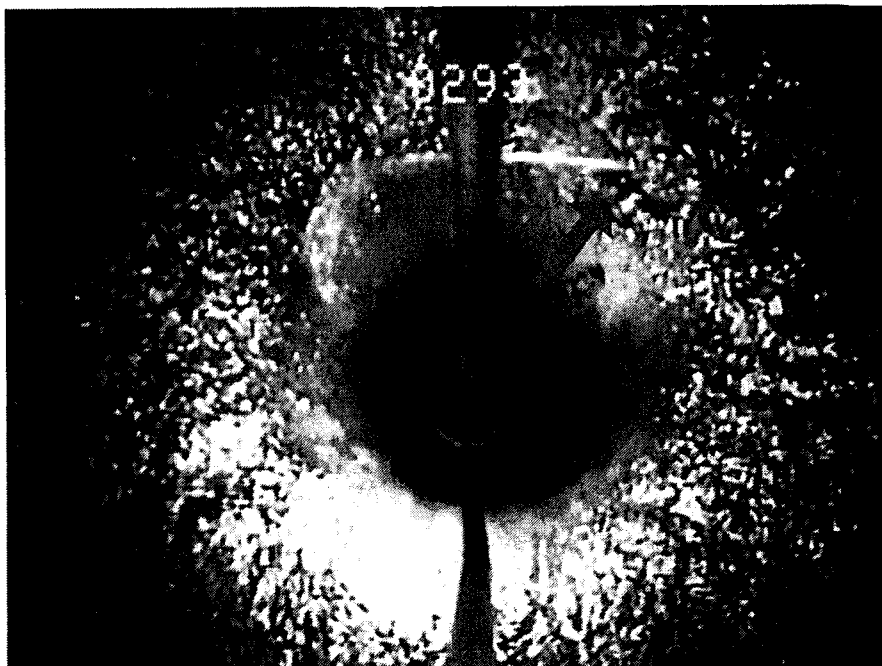
*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Side view of Well No. 4 at 248 feet below land surface, showing a small corrosion hole (see arrow) in the well casing.*

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

Downward view of Well No. 6 at 293 feet below land surface, showing cascading water (see arrow) entering the well through a hole in the split casing.*

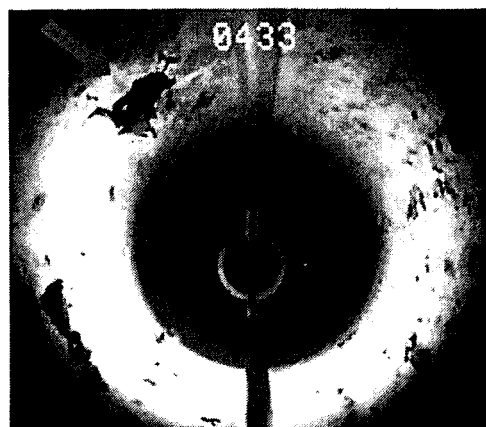


Side view of Well No. 6 at 293 feet below land surface, showing a close up view of cascading water entering the well.*

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Side view of Well No. 6 at 391 feet below land surface, showing close up view of split well casing and gravel pack coming through.*

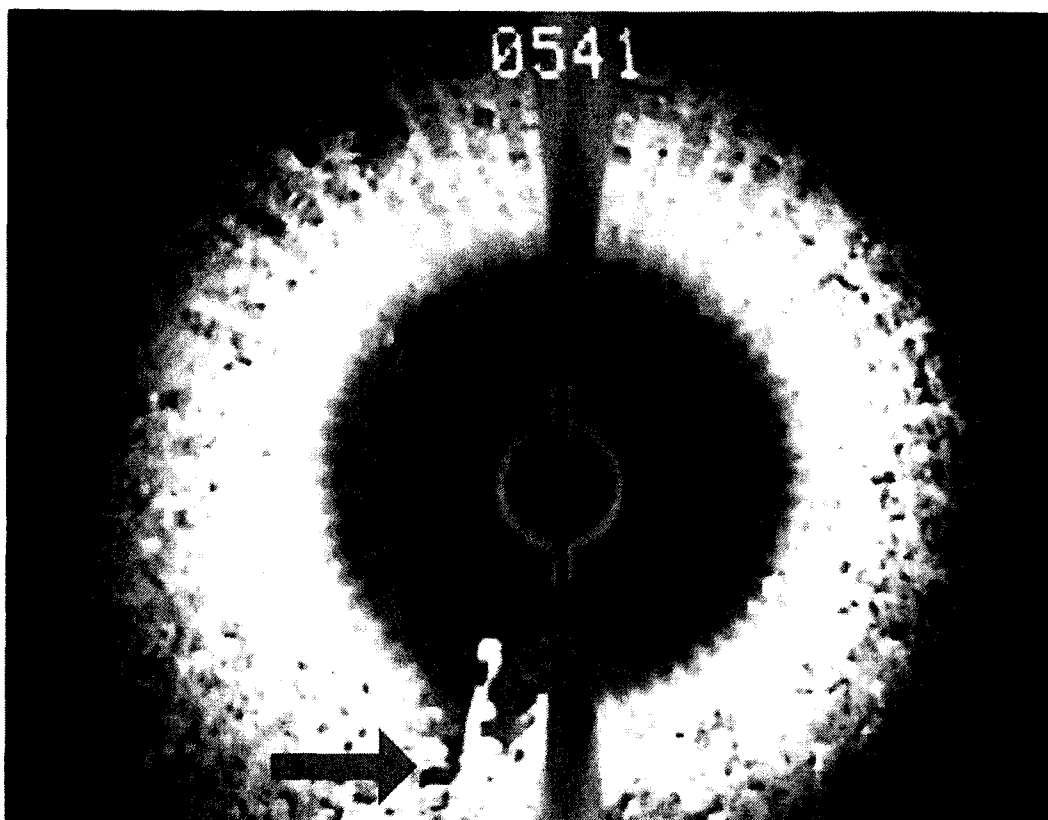


Downward view of Well No. 6 at 433 feet below land surface, showing corrosion hole in well casing (see arrow).*



Side view of Well No. 6 at 433 feet below land surface, showing detail view of corrosion hole in well casing.*

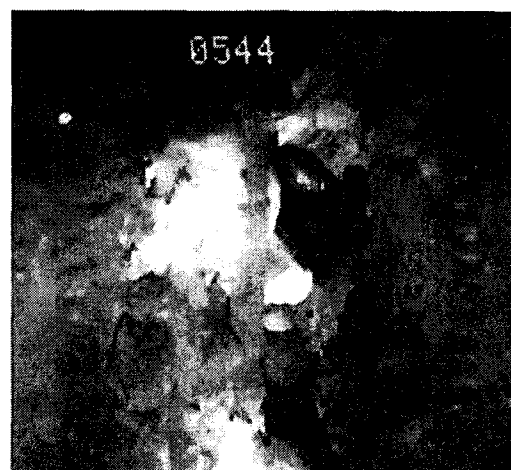
*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Downward view of Well No. 6 at 541 feet below land surface, showing ripped wire-wrap well screen (see arrow).*



Side view of Well No. 6 at 542 feet below land surface, showing close up view of ripped well screen with gravel pack coming through.*



Side view of Well No. 6 at 542 feet below land surface, showing close up view of ripped well screen with gravel pack coming through.*

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 4

SYSTEMATIC DRAWING

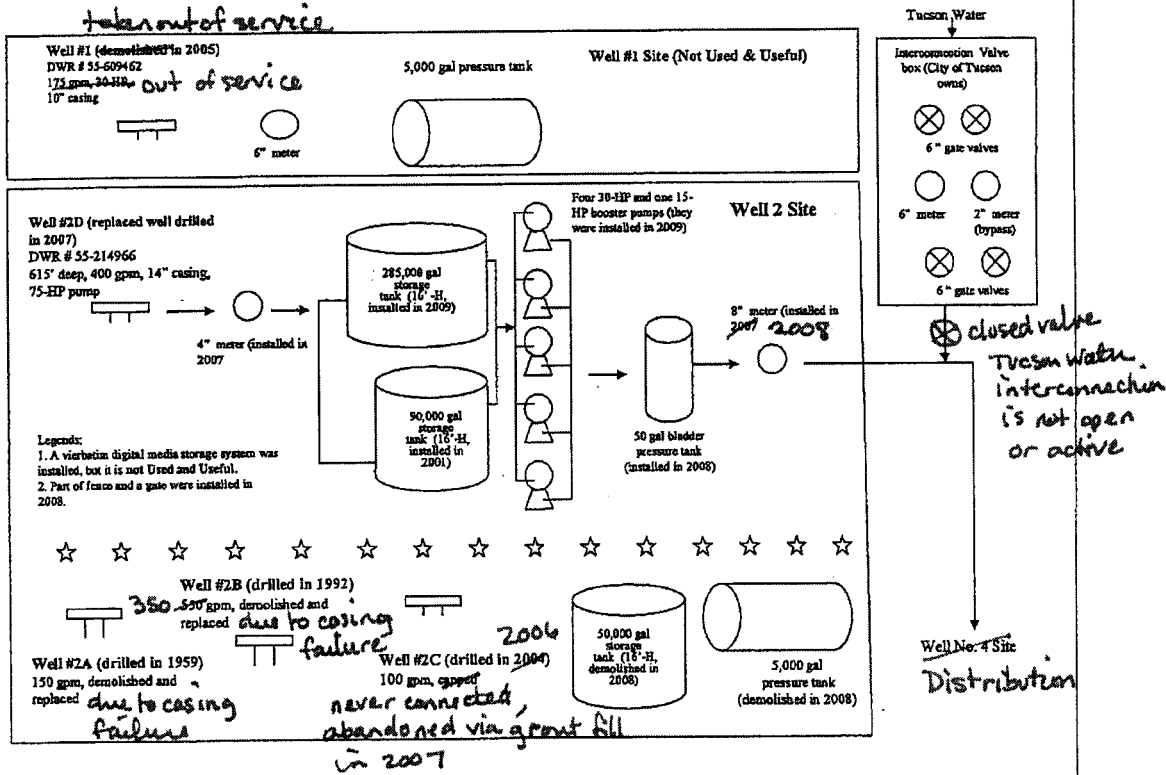


EXHIBIT 3B
SYSTEMATIC DRAWING

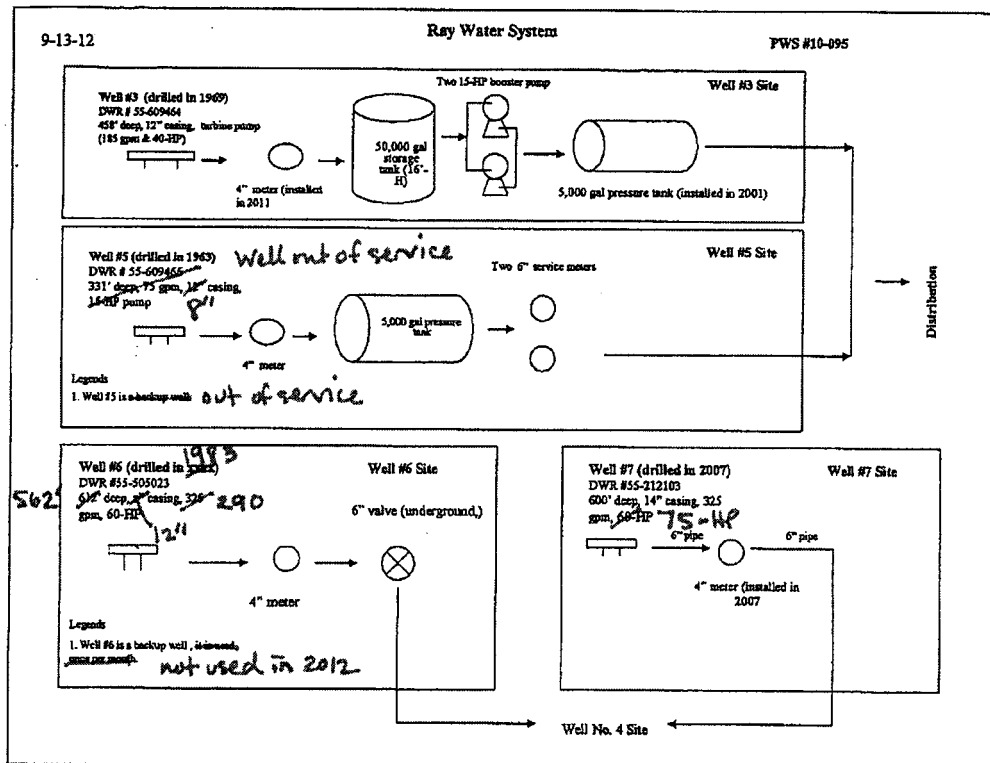
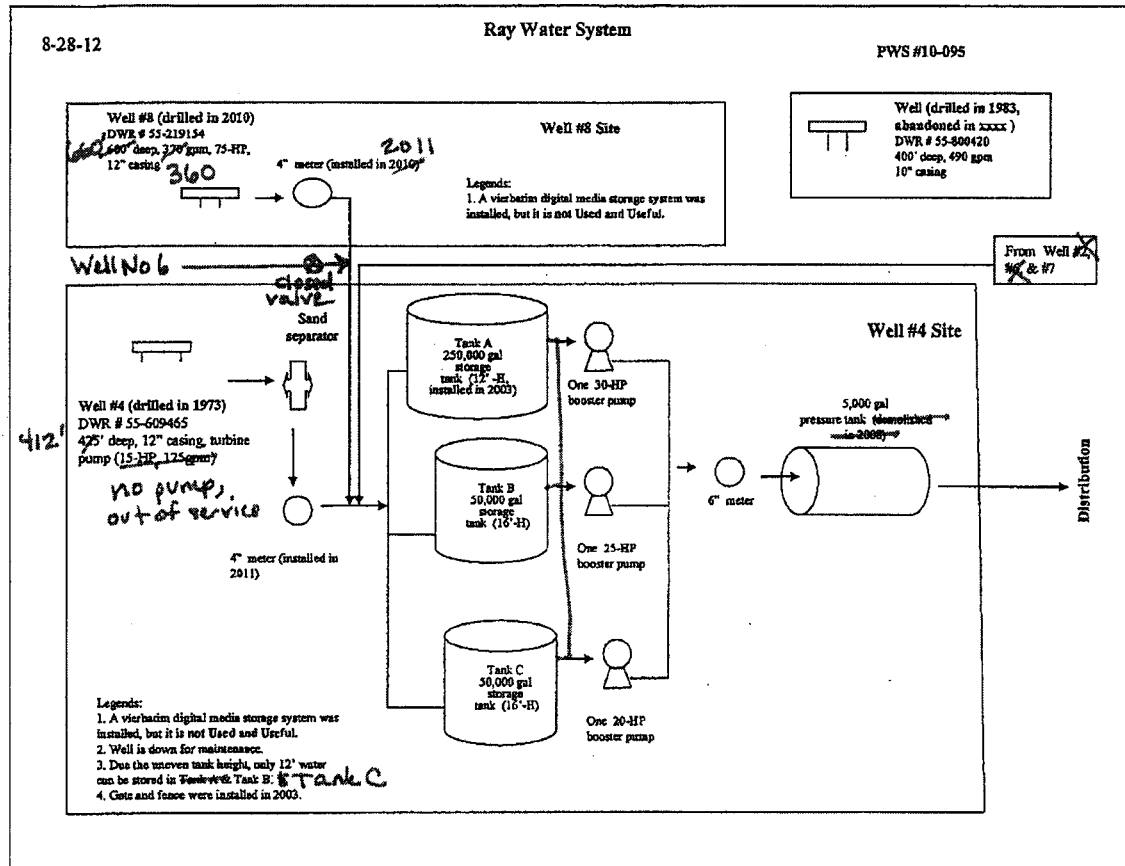


EXHIBIT 3C SYSTEMATIC DRAWING



ATTACHMENT 4

1
2
3 **BEFORE THE ARIZONA CORPORATION COMMISSION**

4
5 **Docket No. W-01380A-12-0254**

6
7
8
9
10
11 **TESTIMONY**
12 **of**
13 **Marvin F. Glotfelty, R.G.**

14
15 **On Behalf of Ray Water Company, Inc.**
16
17
18
19
20
21
22
23
24

1
2 **REBUTTAL TESTIMONY OF MARVIN F. GLOTFELTY, R.G.**
3 **On Behalf of Ray Water Company, Inc.**
4

5 Q. **Please state your name and business address.**

6 A. My name is Marvin Glotfelty, R.G., and my business address is 6155 E. Indian School
7 Road, Suite 200, Scottsdale, Arizona, 85251.
8

9 Q. **By whom are you employed and in what capacity?**

10 A. I am employed by Clear Creek Associates as a Principal Hydrogeologist.
11

12 Q. **Please briefly describe your educational background and work experience.**

13 A. I have a Bachelors and Masters degree in Geology from Northern Arizona University,
14 and I have been involved with hydrogeological studies in the southwestern United
15 States for about 30 years. I am a Registered Professional Geologist in Arizona and
16 California, and I am also a Licensed Well Driller in Arizona.
17

18 Q. **Please describe your involvement with previous work for Ray Water Company.**

19 A. In my capacity as Principal Hydrogeologist, I have evaluated existing Ray Water
20 Company (Company) wells and have overseen the installation of new wells in the
21 Company system, to replace older wells that have exceeded their useful life.
22

23 Q. **What is the purpose of your testimony?**

24 A. My testimony is in response to the direct testimony of Dorothy Hains, P.E., and
25 presents my professional opinion as to the structural stability and overall reliability of
26

1 the existing wells in the Company system, and whether Well No. 8 provides excess
2 capacity or is reasonably necessary to meet the Company's water demand.

3
4 **Q. Please summarize your conclusions regarding the matters addressed in your**
5 **testimony.**

6 A. A well location/condition map that was prepared by WestLand Resources, Inc. is
7 presented in Exhibit 1. That map shows that Company Wells No. 1, 2A, 2B, 2C, and
8 5 are inactive. Therefore, my analysis for this testimony has been focused on older
9 wells that are not currently in service, or have been reserved for backup capacity only.
10 These older wells lack the structural stability that would be required for them to serve
11 as a reliable water source for Company. My review of videos for Wells No. 3, 4, and
12 6 indicated corrosion holes and structural failures in the casing and screens of each
13 well. The videos for Wells No. 2D, 7 and 8 were not reviewed because those wells
14 were recently drilled and constructed. Wells No. 3, 4, and 6 may structurally fail
15 (collapse) at essentially any time, and such a well failure would probably occur during
16 peak water pumping periods when the wells are being relied upon by Company to the
17 greatest extent.

18
19 **Q. What information and/or records did you review for this testimony?**

20 A. To augment the records I previously reviewed in preparation for the ACC Hearing in
21 October 2009, I reviewed more recent video surveys of Well No. 4 from May 29, 2012
22 and August 31, 2012.

23
24 **Q. Please briefly describe your findings and conclusions from your review of the**
25 **Well No. 3 videos, and the other available data for that well.**
26

1
2 A. Company Well No. 3 is located at 5710 S. Herpa in Tucson, Arizona, and has ADWR
3 Registration Number 55-609464. Well No. 3 was drilled by a cable tool rig in 1969.
4 It has a 12-inch diameter machine perforated casing, a total depth of 458 feet, and a
5 static water level of 198 feet below land surface in June 2008. Well No. 3 reportedly
6 produces approximately 185 gpm. In 2008, a well video showed that the perforations
7 were significantly blocked, so the well was cleaned by brushing and bailing. After the
8 well was cleaned, the condition of the well casing (which was previously obscured by
9 the accumulated scale) could be observed. A large corrosion hole in the wall of the
10 steel casing was observed at a depth of approximately 347 feet. A photograph (screen
11 capture from the well video) of the corrosion hole from at 347 feet in this well is
12 presented in Exhibit 2. A casing patch was subsequently placed over the corrosion
13 hole. The 4-foot long casing patch extends from 345 feet to 349 feet, and a
14 photograph of the top edge of the patched casing is also shown in Exhibit 2. Due to its
15 age (43 years old) and the history of other wells in the Company service area, Well
16 No. 3 is near the end of its economically useful life.
17

18 Q. **You mentioned the casing patch from 345 feet to 349 feet in Well No. 3. Why**
19 **couldn't additional casing patches be installed to address all the corrosion**
20 **problems in this well?**

21 A. Corrosion holes in steel well casings are rarely a localized condition, and typically
22 reflect the overall corrosive characteristics of the aquifer material surrounding the
23 well. This situation is demonstrated by many of the older wells in the Company
24 system, which have corrosion holes at multiple locations and depths within each well.
25 Casing patches can be used to cover isolated problem areas, but as the corrosion
26

1 becomes more extensive in older wells, the application of additional casing patches
2 will not serve as effective "band-aids" to cover multiple problem areas, and will not
3 provide structural stability of the overall well.
4

5 **Q. Please briefly describe your findings and conclusions from your review of the**
6 **Well No. 4 video, and the other available data for this well.**

7 A. Company Well No. 4 is located at 4410 E. Rex in Tucson, Arizona, and has ADWR
8 Registration Number 55-609465. Well No. 4 was drilled using a cable tool rig in
9 1973. It has a 12-inch diameter steel well casing with machined perforations. The
10 depth of this well is reportedly 425 feet, and the static water level was 193 feet below
11 land surface in August 2012. The current water production from this well is
12 reportedly about 125 gpm, although this well has not been pumped since the first
13 quarter of 2012, and is not currently equipped with a pump. The well videos from
14 May and August 2012 show extensive corrosion at various depths throughout the well.
15 Examples are presented in Exhibit 2, which includes a photograph (screen capture
16 from the well video) of small corrosion holes as shallow as 27 feet below land surface,
17 and also a very large corrosion hole in the casing at a depth of 184 feet. Other
18 corrosion holes were observed in this well at depths of 187 feet and 260 feet. Due to
19 its age (39 years old) and the history of other wells in the Company service area, Well
20 No. 4 is at the end of its economically useful life.
21

22 **Q. Please briefly describe your findings and conclusions from your review of the**
23 **Well No. 6 videos, and the other available data for this well.**

24 A. Company Well No. 6 is located at 4450 E. Rex in Tucson, Arizona, and has ADWR
25 Registration Number 55-800420. Well No. 6 was drilled in 1983 using the rotary
26

1 drilling method. It was constructed with a gravel packed envelope surrounding a 12-
2 inch diameter low-carbon steel casing and wire-wrapped screen. The total depth of
3 Well No. 6 is reportedly 642 feet, and the static water level of this well was at 341 feet
4 below land surface in December 2008. The well reportedly produced approximately
5 325 gpm, but video surveys in 2008 indicated blocked perforations and holes in the
6 well casing and well screen. The December 1, 2008 video for this well indicates that
7 the well has a split casing at a depth of about 293 feet, which is allowing cascading
8 water to enter the well (Exhibit 2). Cascading water such as this is commonly of poor
9 quality, and may lead to pump damage and accelerated scale growth and corrosion of
10 the well casing. The December 2008 video of Well No. 6 also indicates multiple
11 locations with corrosion holes and casing splits (Exhibit 2). In the screened interval of
12 Well No. 6, the wire-wrapped screen was observed to be ripped at a depth of about
13 541 feet, with filter pack and native sediment spilling in through the ripped area
14 (Exhibit 2). Due to its age (29 years old), extensive corrosion, and damaged screen,
15 Well No. 6 is considered to have reached the end of its economically useful life. This
16 well has not been pumped during the past year, and is currently considered available
17 only for backup capacity in an emergency. Also, due to it's proximity to Well No. 8
18 (see Figure 1), this well should not be pumped simultaneous with Well No. 8. Not
19 only would the combined groundwater withdrawal of the two neighboring wells cause
20 excessive water-table drawdown and unwarranted energy requirements during their
21 pumping, but structural damage to the wells could also result from such an activity.
22

23 **Q. How do the structural problems indicated by the video surveys impact the water**
24 **production capability and reliability of the Company system?**
25
26

1 A. The video surveys and the respective ages of Wells No. 3, No. 4, and No. 6 make it
2 quite clear that these wells are subject to collapse and catastrophic failure at essentially
3 any time. Therefore, it would not be prudent for the Company to rely on any of these
4 wells as a reliable water supply source. Various scenarios of water supply are
5 presented in Table 1, which shows various well use conditions and the resulting water
6 production. In Table 1A, Wells No. 2D, No. 3, No. 7, and No. 8 are being pumped at
7 their reported pumping capacities. The combined flow rate of all these wells is 1,280
8 gallons per minute, which is equivalent to about 55.3 million gallons per month.
9 Assuming a reasonable pumping frequency (duty cycle) of 65%, the monthly water
10 production from all these wells would be only about 35.9 million gallons (Table 1).

11
12 **Q. What is the basis for your assumption of a 65% duty cycle?**

13 A. I was privileged to have been selected as the *Distinguished McElhiney Lecturer* by
14 the National Ground Water Association, so during the past year, I have presented over
15 30 lectures to professional organizations on the topic: *Life-Cycle Economic Analysis of*
16 *Water Wells with Considerations for Design and Construction*. In preparation for that
17 lecture series, I evaluated actual construction costs of 70 public supply wells across
18 the state of Arizona. That evaluation added to other information I had already
19 obtained during consulting projects on this topic for a large municipality and large
20 private water company in Arizona. From the large body of evidence I had collated
21 and reviewed, the average duty cycle for pumping of public supply wells for systems
22 was 65%. The McElhiney Lecture was presented in 17 states and in three other
23 countries, and I never encountered a contradiction to this duty cycle assumption during
24 my lecture series. Based on that research and the experience of my lecture tour, I
25
26

1 consider the value of 65% to be a reasonable duty cycle number for pump operation in
2 private water companies and municipalities.

3
4 **Q. Did the research you conducted in preparation for your lecture tour provide any**
5 **other insights that are relevant to this testimony?**

6 A. Yes. For wells in Arizona that have low-carbon steel well casings and screens, I found
7 that the typical life expectancy of a well is approximately 25 years. After that period
8 of time, most low-carbon steel wells have exceeded their useful life and must be
9 decommissioned and replaced. Again, this is based on review of multiple wells from
10 across the state and reports from individuals who operate wells fields for municipal
11 and private water purveyors.

12
13 **Q. How does that typical life expectancy for low-carbon steel wells compare with the**
14 **ages of the Company wells?**

15 A. Company Wells No. 2D, No. 7 and No. 8 were installed within the past five years or
16 so, and those wells are currently performing efficiently, as expected. The older wells
17 – No. 3, No. 4, and No. 6 – have substantially exceeded the typical longevity of
18 Arizona low-carbon steel wells of that age. Although there are examples of wells that
19 last longer than 25 years, it is by far more common for low-carbon steel wells to come
20 to the end of their useful life at the age of about 25, due to corrosion and structural
21 degradation that accumulates of the years. This demonstrates that Company has
22 operated this water system in such a fashion as to maximize the utility and value of
23 each well far beyond the typical timeframe, which has enabled them to reduce well
24 replacement costs for their customers. However, the recent videos for Wells No. 3,
25 No. 4, and No. 6 clearly indicate that although those wells may continue to play a
26

1 supporting role as backup or conditional water supply sources, their structural
2 condition and age make it unwise for these wells to serve as primary water sources.
3

4 **Q. So, with the assumptions of a 65% duty cycle and 25-year life expectancy of the**
5 **older Company wells, what would be the vulnerabilities to system reliability?**

6 A. As I mentioned previously, the scenario on Table 1A shows that in the case where
7 Wells 2D, 3, 7, and 8 were all pumping, the monthly water production would be
8 approximately 35.9 million gallons per month (Table 1). We have to keep in mind,
9 however, that the reported pump yield for these wells are annual averages and not
10 actual daily or hourly values. There may be times when any individual pump
11 produces somewhat less than these values due to daily or seasonal fluctuations in the
12 water table, or due to wear and tear on the pump equipment. In addition, there are
13 inevitable equipment failures and required maintenance that could also impact the
14 real-time pump yield values. It is the responsibility of the water company to meet
15 peak-day and peak-hour demands for water supply and fire protection flow
16 requirements, so just barely meeting the average annual or monthly water demand is
17 inadequate. The Company monthly water demands from 2011 that Ms. Hains
18 presented in her testimony indicated a monthly water demand of approximately 21,000
19 to 33,000 gallons. Table 1A shows that the summertime monthly demands can be met
20 with the existing system (including Well No. 8), but if Well No. 3 is excluded (Table
21 1B), the water supply is significantly compromised. To an even greater extent, if Well
22 No. 8 is excluded from the water system (Table 1C), the water system is compromised
23 to the extent that it cannot meet the summertime monthly demands at a 65% duty
24 cycle, and would even struggle to meet those demands at a 100% duty cycle. If Well
25 No. 8 were excluded from the water system, there would also be a very good
26

1 possibility of the additional failure of Well No. 3, due to its advanced age, and this
2 scenario is shown in Table 1D. In this scenario, the water supply is significantly
3 inadequate to meet the water demands of the Company system (Table 1).
4

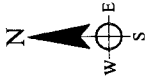
5 **Q. Can you summarize your professional opinion regarding the well videos and well**
6 **records of the Company wells you reviewed?**

7 A. Wells No. 1, 2A, 2B, 2C, and 5 are out of service, and the structural conditions of
8 Wells No. 3, No. 4, and No. 6 are extremely poor. Thus, Wells 3, 4, and 6 should not
9 be relied upon as critical water sources for the Company system, because these wells
10 could structurally fail at essentially any time. Well No. 8 is useful to provide a
11 reliable water supply for the Company system, and it is demonstrably used during
12 periods of peak demand, and also to enable Company to maintain operational
13 flexibility to conduct routine well maintenance without disruption of service to its
14 customers. Additionally, Well No. 8 provides a necessary water supply in the event of
15 a failure of one of the older wells in the system. Well No. 8 is necessary and increases
16 the reliability and cost-efficiency of the Company system.
17

18 **Q. Does this conclude your testimony?**

19 A. Yes, it does.
20
21
22
23
24
25
26

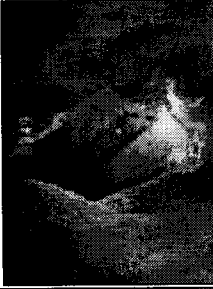
EXHIBIT 1



LEGEND
--- WATER SERVICE
--- BOUNDARY
X INACTIVE

WELL NO. 3

ADWR #55-609464
CAPACITY 185 GPM
DRILLED IN: 1969



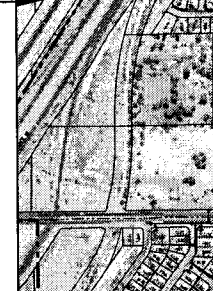
WELL NO. 4

ADWR #55-609465
CAPACITY 110 GPM
CURRENTLY OUT OF SERVICE -
NO PUMP IN WELL
DRILLED IN: 1973



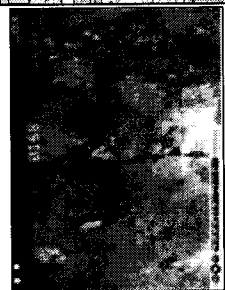
WELL NO. 7

ADWR #55-212103
CAPACITY 325 GPM
DRILLED IN: 2007



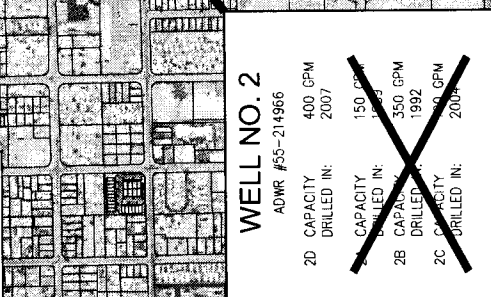
WELL NO. 1

~~ADWR #55-609462
CAPACITY 175 GPM
DRILLED IN: 1957~~



WELL NO. 2

ADWR #55-214966
2D CAPACITY 400 GPM
DRILLED IN: 2007
CAPACITY 150 GPM
DRILLED IN: 1983
2B CAPACITY 350 GPM
DRILLED IN: 1992
2C CAPACITY 400 GPM
DRILLED IN: 2007



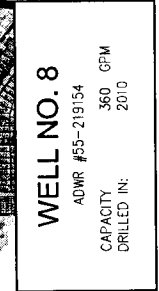
WELL NO. 5

~~ADWR #55-609466
CAPACITY 150 GPM
DRILLED IN: 1983~~



WELL NO. 8

ADWR #55-219154
CAPACITY 360 GPM
DRILLED IN: 2010



WELL NO. 6

ADWR #55-505023
CAPACITY 290 GPM
CURRENTLY AVAILABLE FOR
BACKUP CAPACITY ONLY
DRILLED IN: 1983



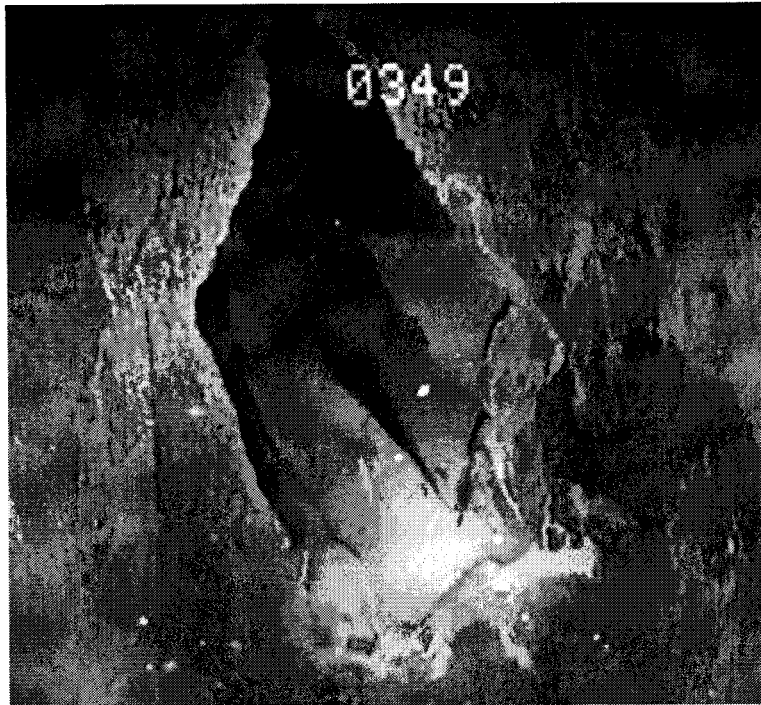
RAY WATER COMPANY
WATER WELL STATUS

DECEMBER 17, 2012

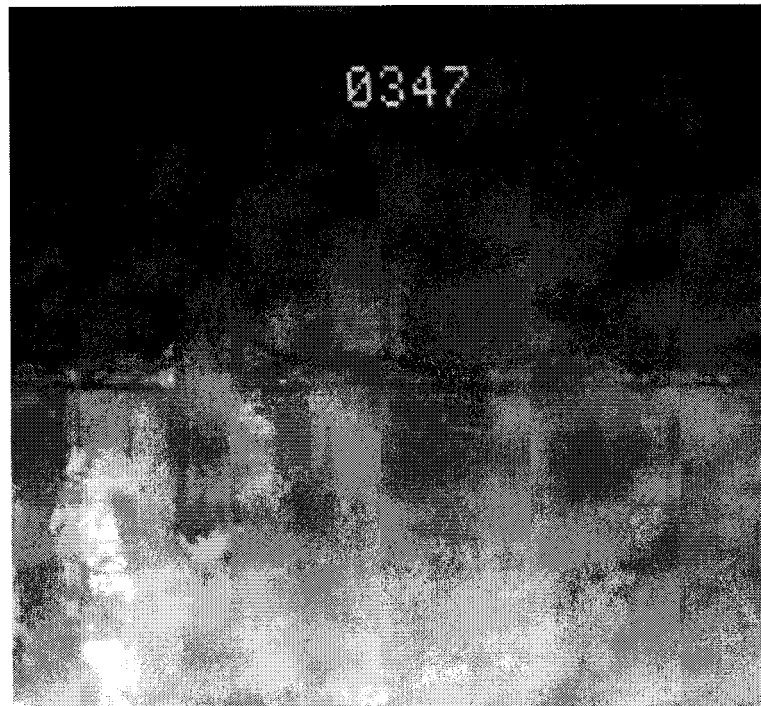
PHOTO SOURCE: 2010 AERIAL EXPRESS

Welland Resources, Inc.
11111 Lakeshore Drive
Suite 100
Livonia, Michigan 48150
48150-1000

EXHIBIT 2



Side view of Well No. 3 at 347 feet below land surface, showing a corrosion hole in the well casing.*



Side view of Well No. 3 at 345 feet below land surface, showing the top edge (see arrow) of the casing patch that was installed from 345 to 349 feet.*

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Well No. 4 at 27 feet* below land surface, showing small corrosion holes (see arrows) in the well casing in *downward view* (left photo) and *Side view* (right photo).

*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

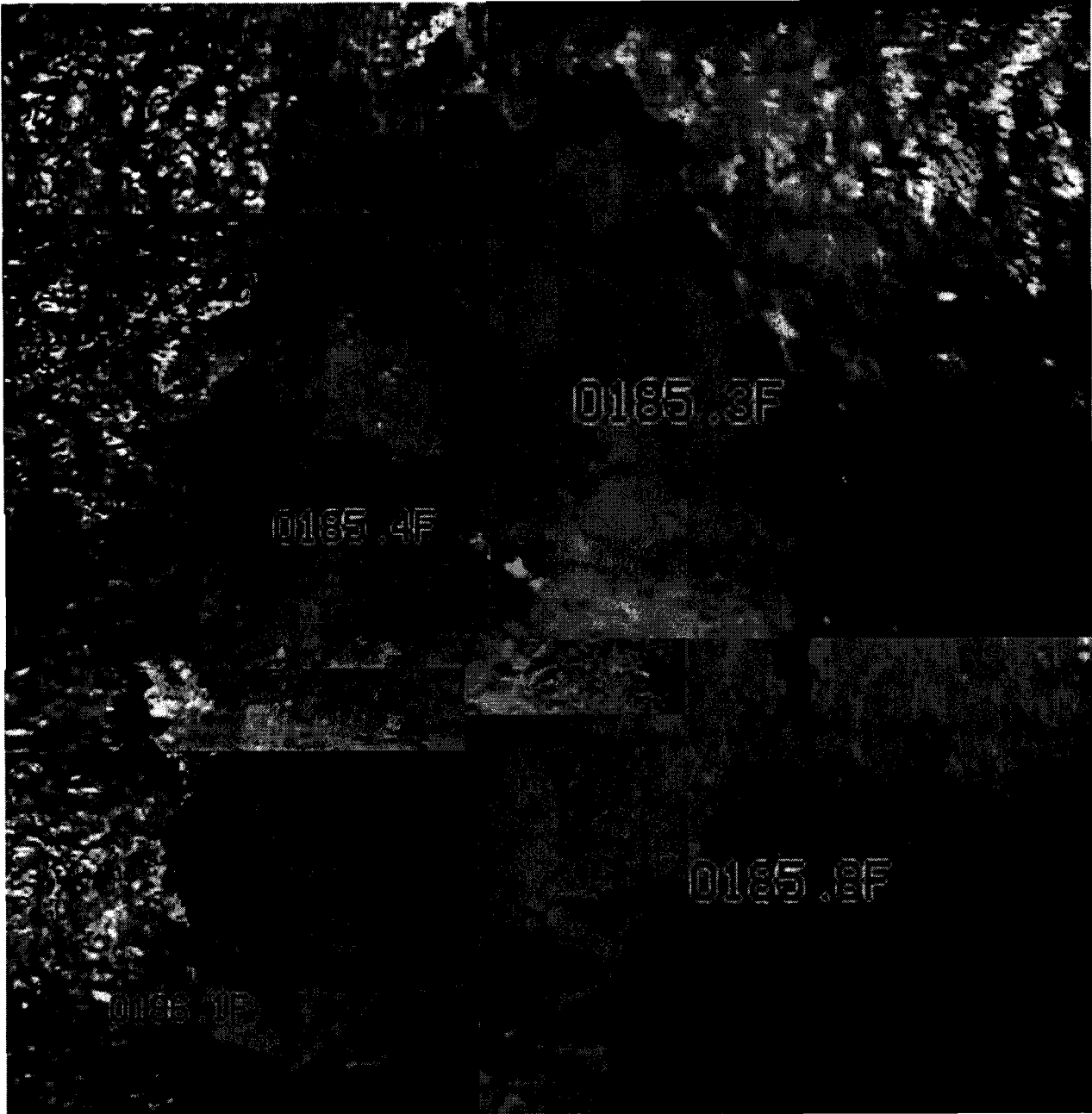


Downward views of Well No. 4 at 184 feet* below land surface, showing an extremely large corrosion hole, with about 1/4 of well casing completely gone. The top portion of the hole is on the left photograph, and the bottom of the hole is on the right photograph.



Side views of Well No. 4 at 184 feet* below land surface, showing details of the corrosion hole.

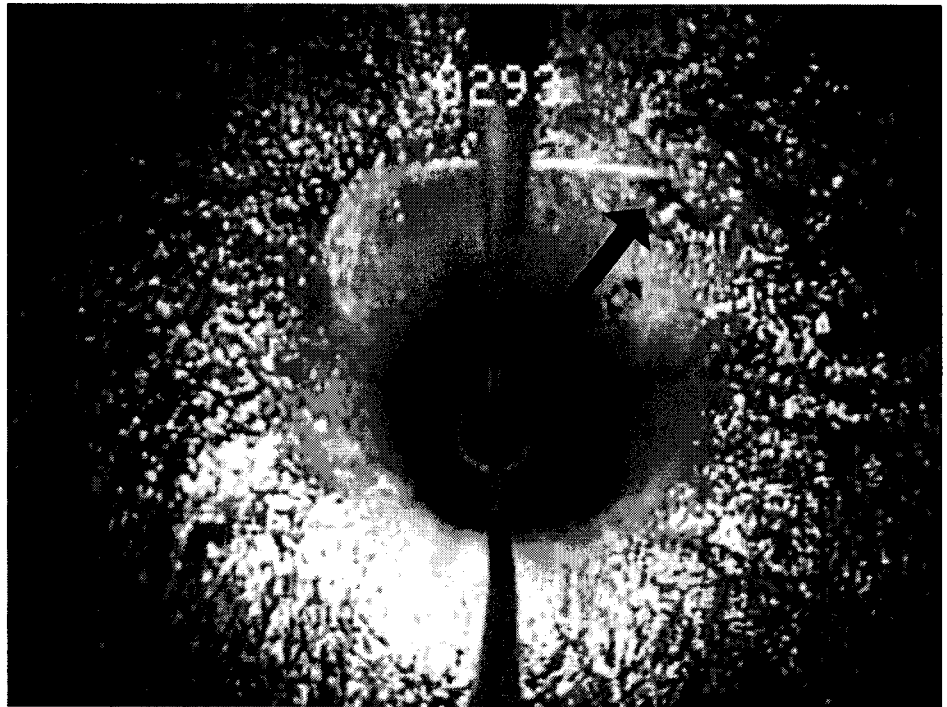
*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).



Composite *Side view* of Well No. 4 at 184 feet* below land surface, showing a large corrosion hole in the well casing.

*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

Downward view of Well No. 6 at 293 feet below land surface, showing cascading water (see arrow) entering the well through a hole in the split casing.*

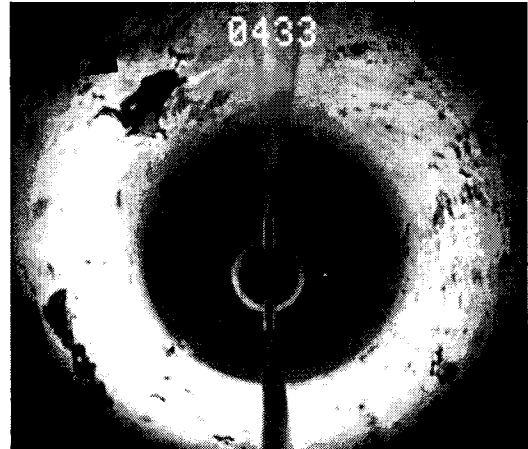


Side view of Well No. 6 at 293 feet below land surface, showing a close up view of cascading water entering the well.*

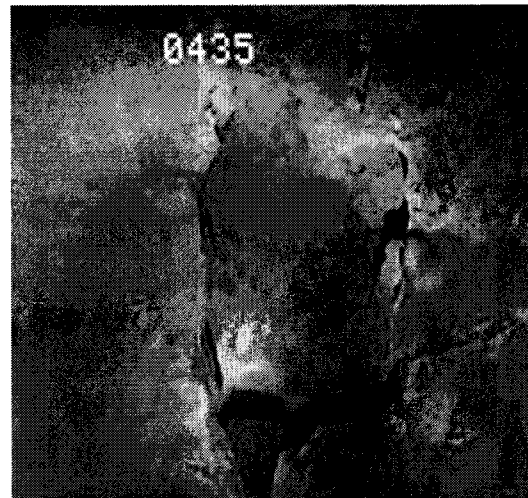
*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Side view of Well No. 6 at 391 feet below land surface, showing close up view of split well casing and gravel pack coming through.*

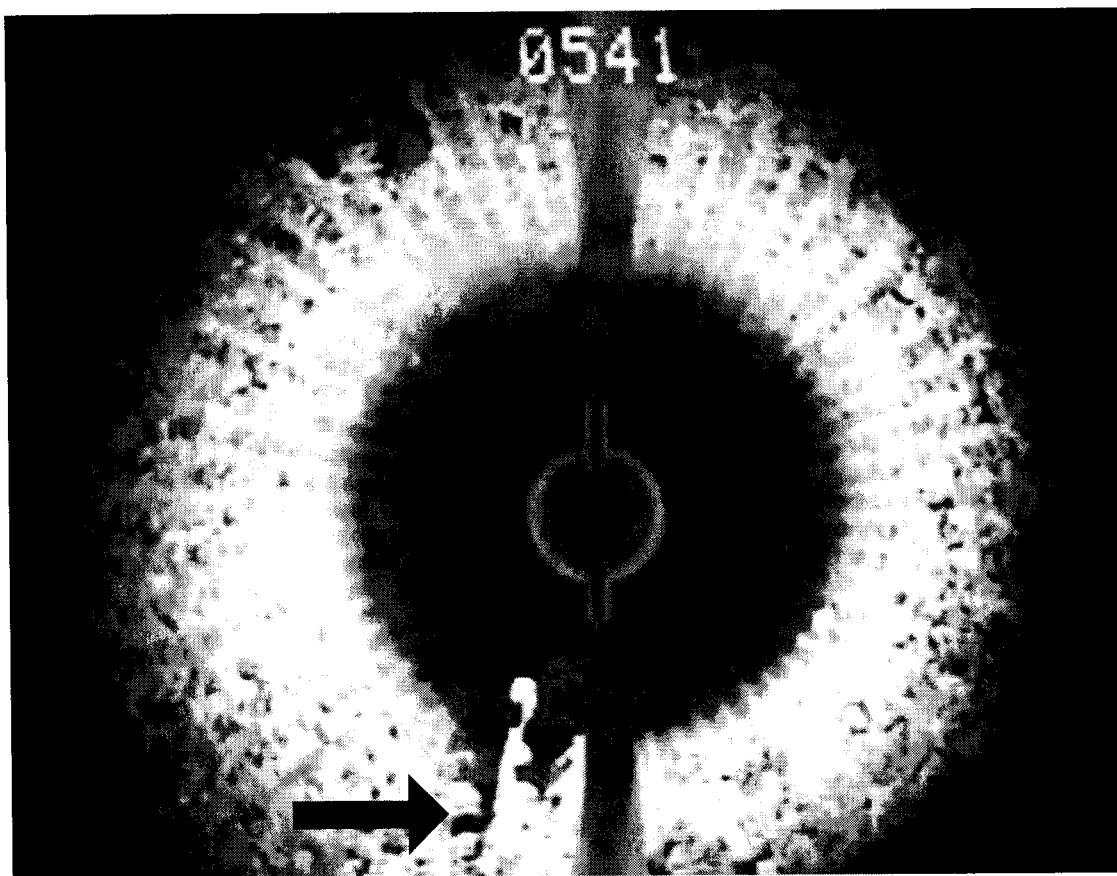


Downward view of Well No. 6 at 433 feet below land surface, showing corrosion hole in well casing (see arrow).*

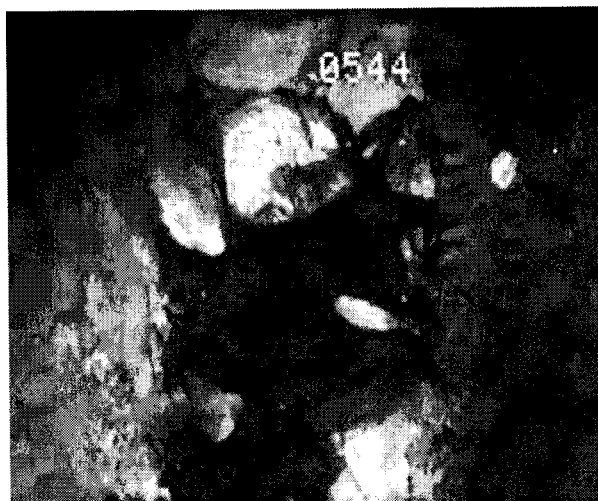


Side view of Well No. 6 at 433 feet below land surface, showing detail view of corrosion hole in well casing.*

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Downward view of Well No. 6 at 541 feet below land surface, showing ripped wire-wrap well screen (see arrow).*



Side view of Well No. 6 at 542 feet below land surface, showing close up view of ripped well screen with gravel pack coming through.*



Side view of Well No. 6 at 542 feet below land surface, showing close up view of ripped well screen with gravel pack coming through.*

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 3

TABLE 1 WATER PRODUCTION SCENARIOS - RAY WATER COMPANY

A. Water Production - All active wells in use

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
3	1969	43	185
7	2007	5	325
8	2010	2	370
TOTAL =			1,280 gpm
			= 1,843,200 gal/day
			= 55,296,000 gal/month
			= 35,942,400 gal/month @ 65% duty cycle

B. Water Production - Well No. 3 out of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
7	2007	5	325
8	2010	2	370
TOTAL =			1,095 gpm
			= 1,576,800 gal/day
			= 47,304,000 gal/month
			= 30,747,600 gal/month @ 65% duty cycle

C. Water Production - Well No. 8 out of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
3	1969	43	185
7	2007	5	325
TOTAL =			910 gpm
			= 1,310,400 gal/day
			= 39,312,000 gal/month
			= 25,552,800 gal/month @ 65% duty cycle

D. Water Production - Wells 3 and 8 out of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
7	2007	5	325
TOTAL =			725 gpm
			= 1,044,000 gal/day
			= 31,320,000 gal/month
			= 20,358,000 gal/month @ 65% duty cycle